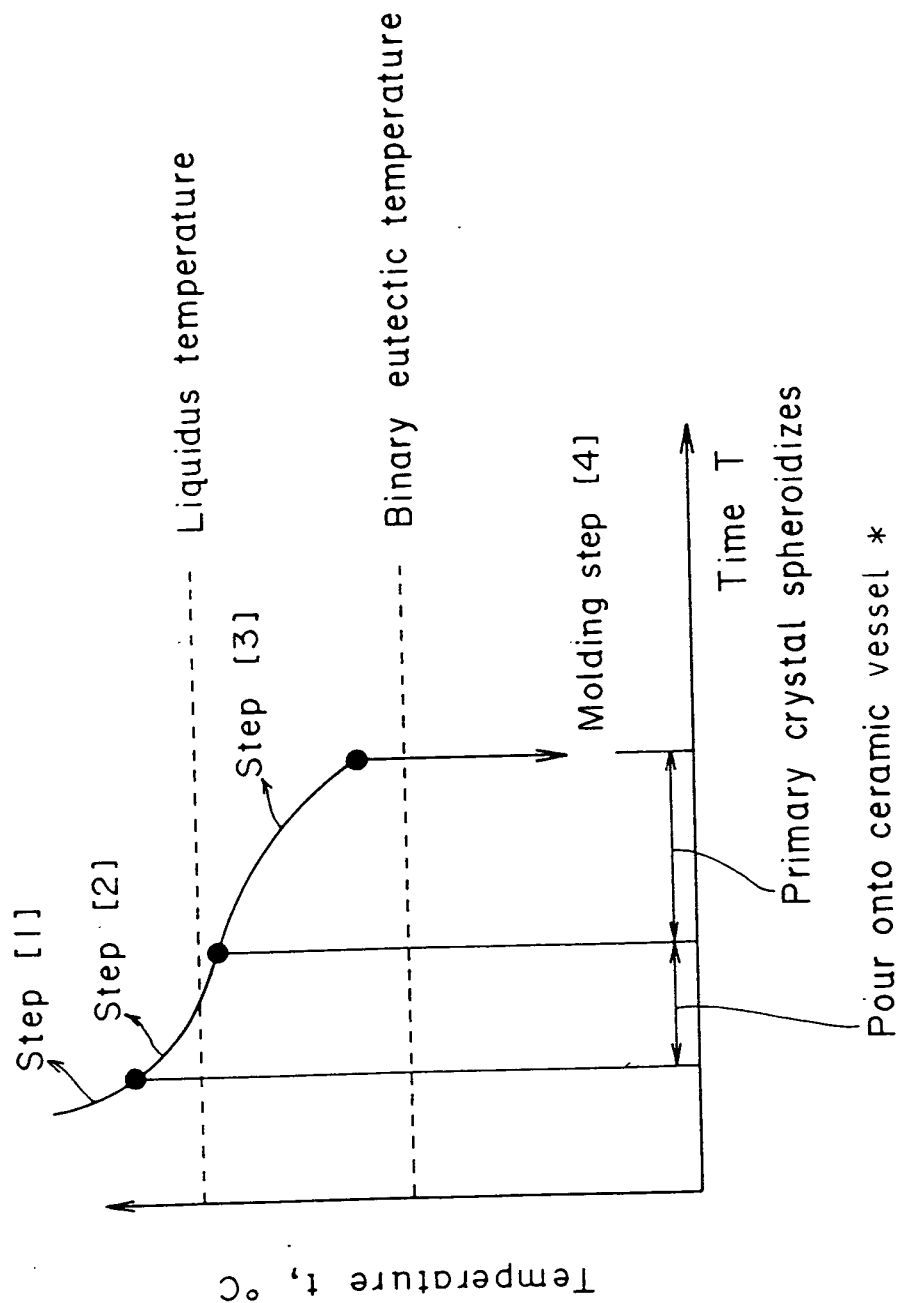


FIG. 1(a)



\* With or without cooling jig

FIG. 1 (b)

Temperature of melt depends on the case and may be higher or lower than the liquidus temperature

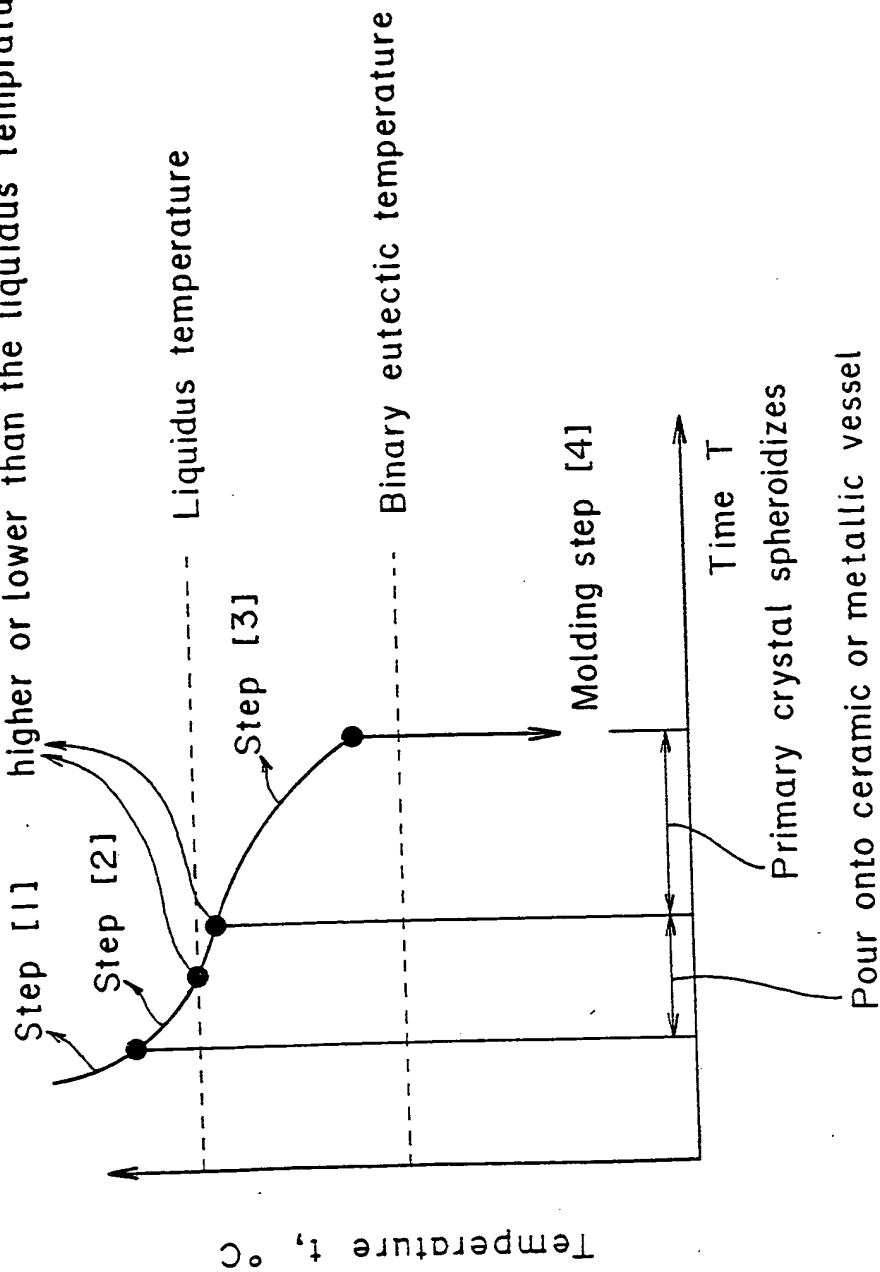
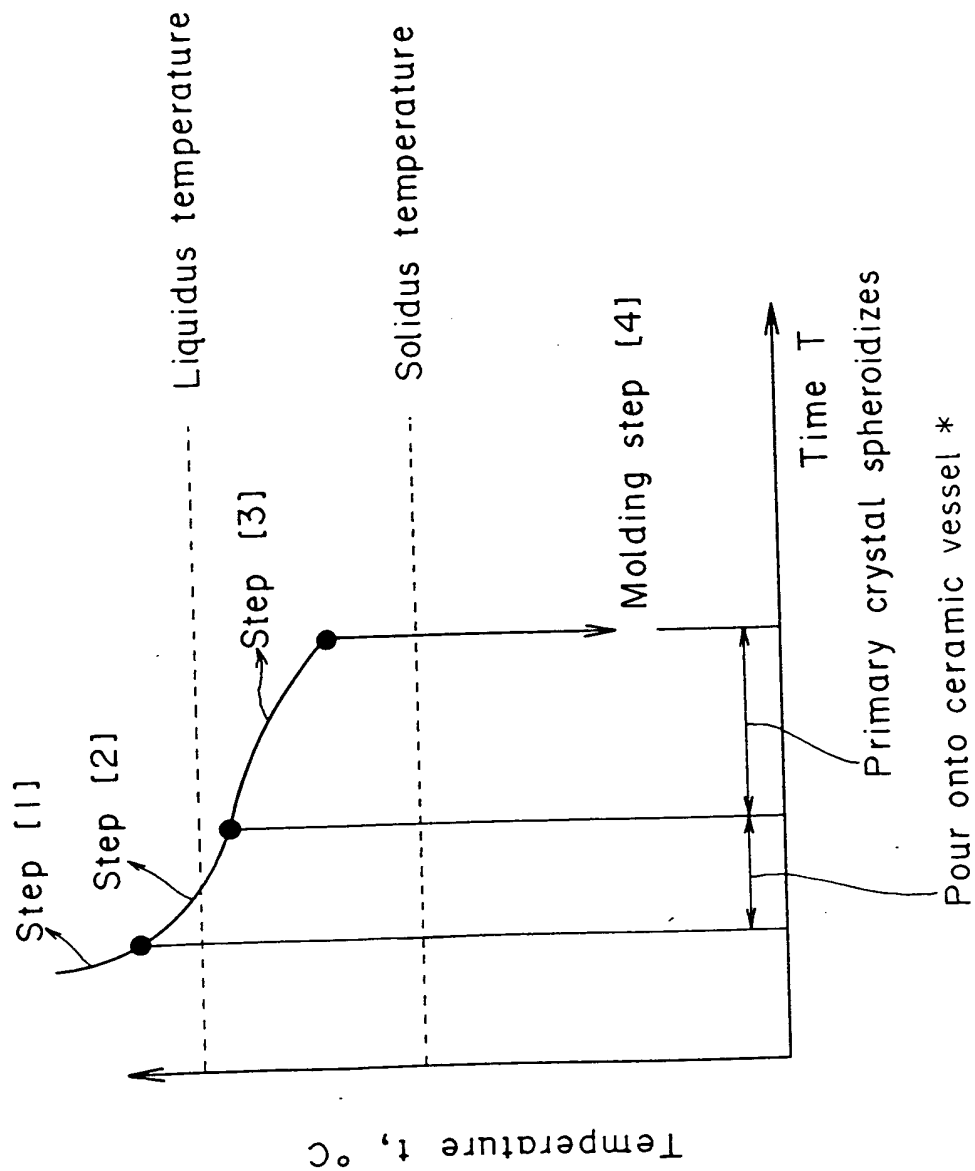


FIG. 2(a)



\*With or without cooling jig

FIG. 2(b)

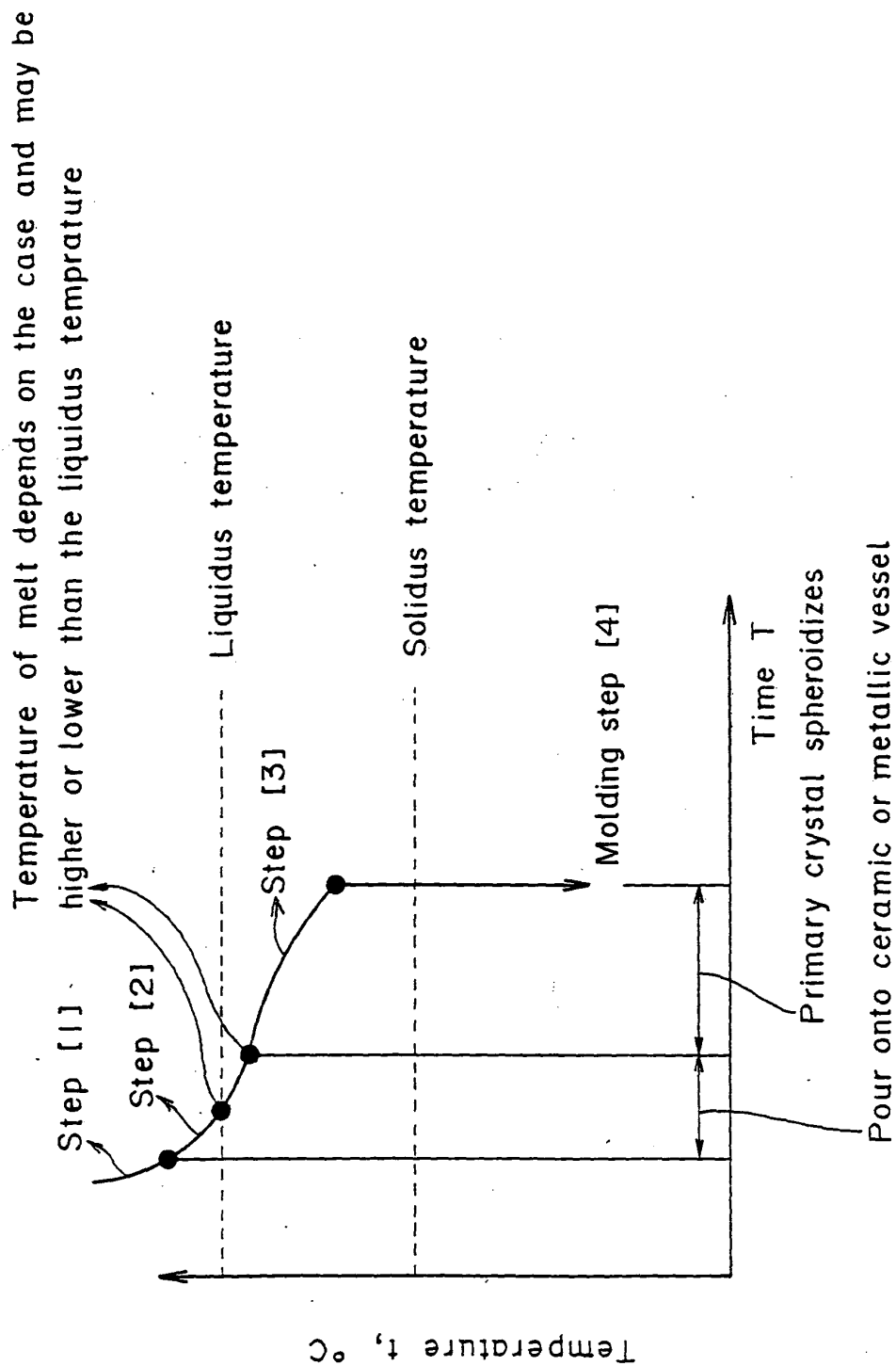


FIG. 3 (a)

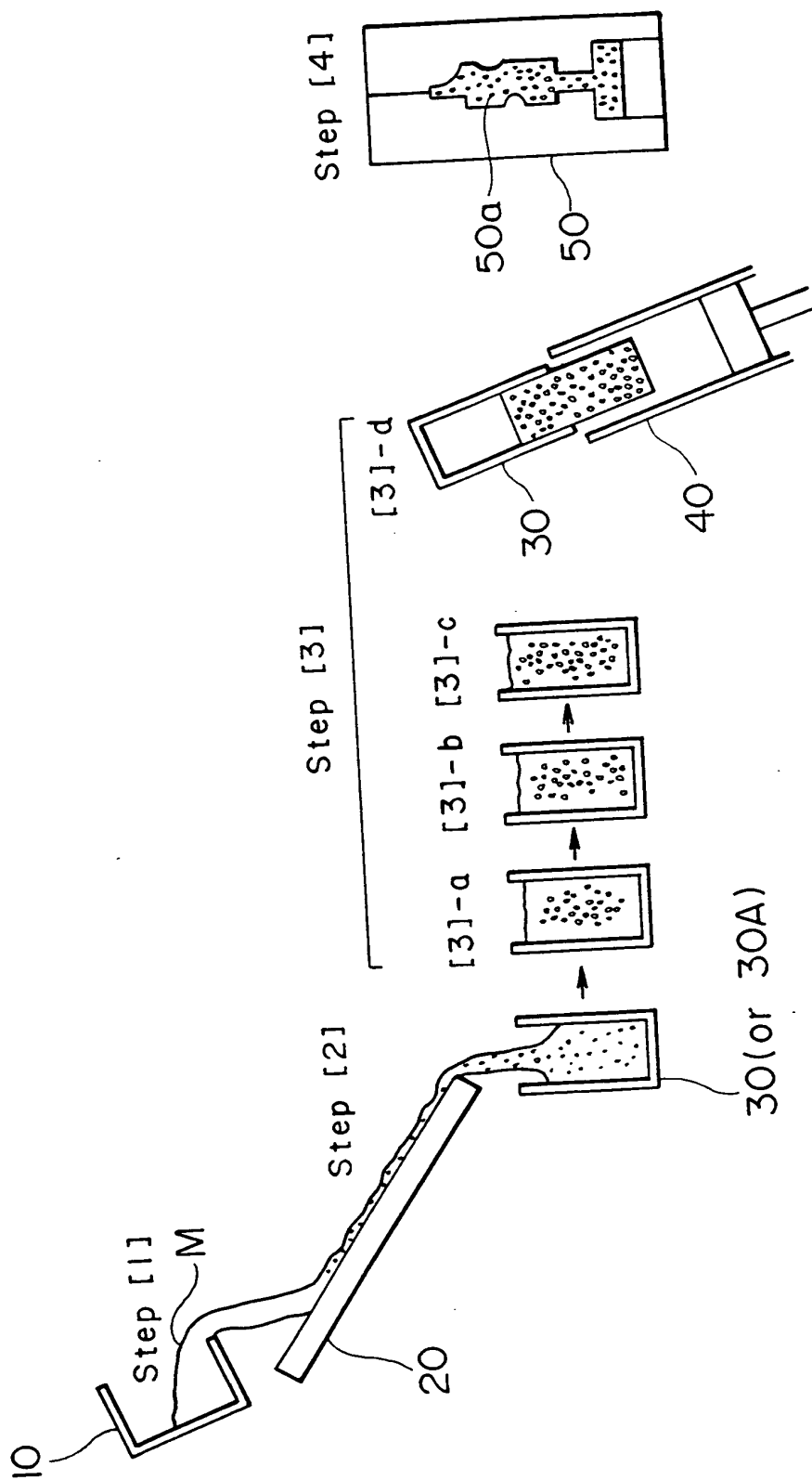


FIG. 3(b)

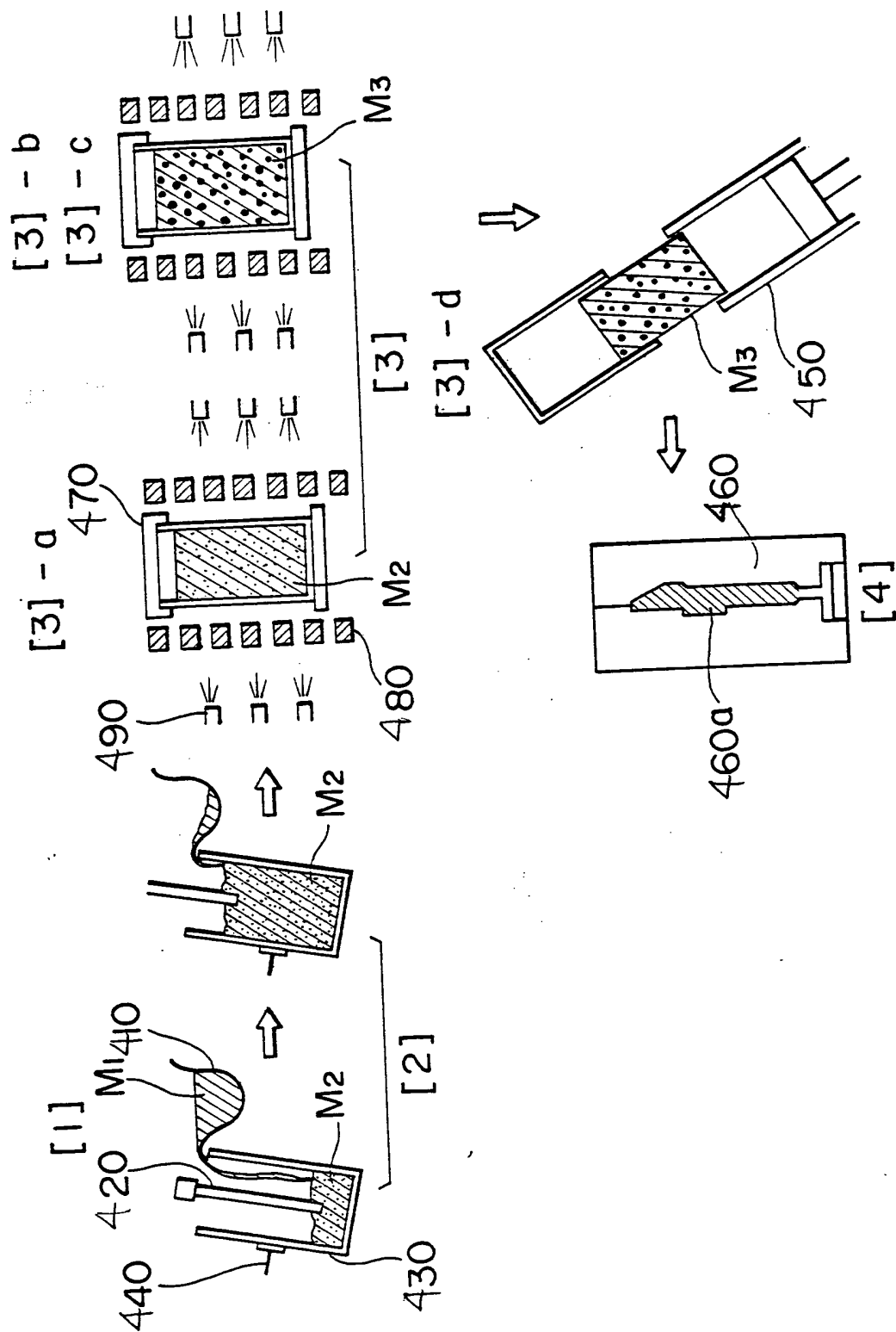


FIG. 4

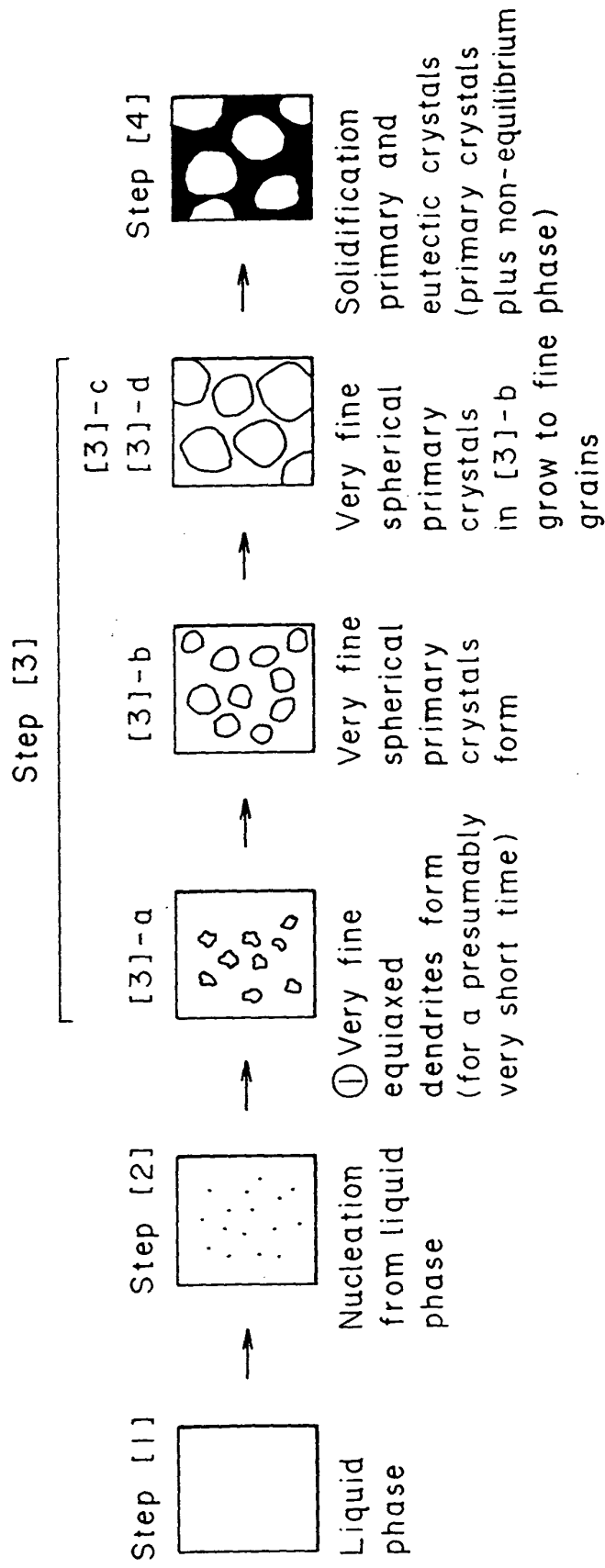


FIG. 5(a)

Superheated to no more than 100°C  
(without cooling jig) or 300°C  
(with cooling jig) above liquidus temperature

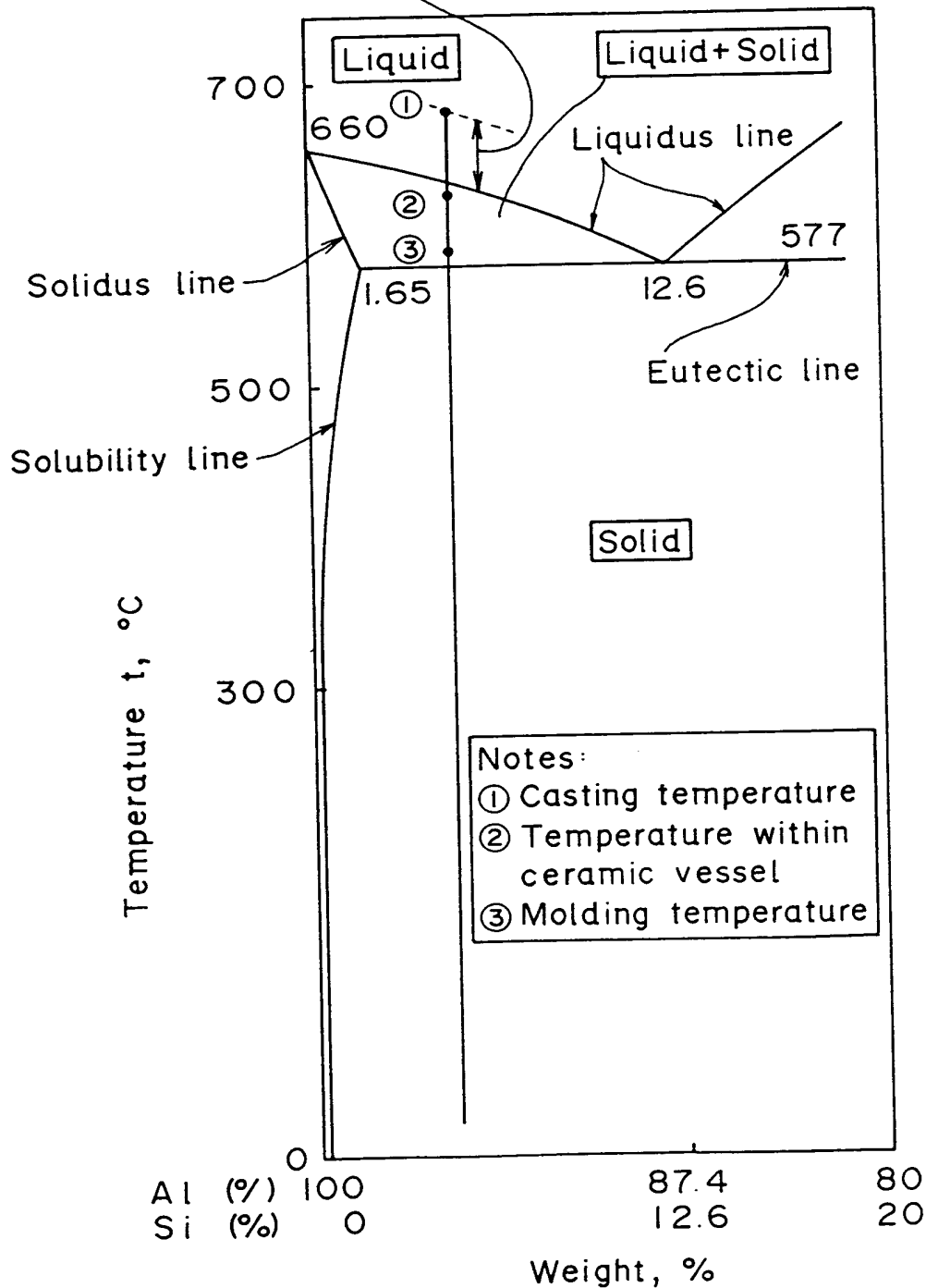




FIG. 5(b)

Temperature of melt depends on the case and may be higher or lower than the liquidus temperature

Superheated to no more than 50°C above liquidus temperature

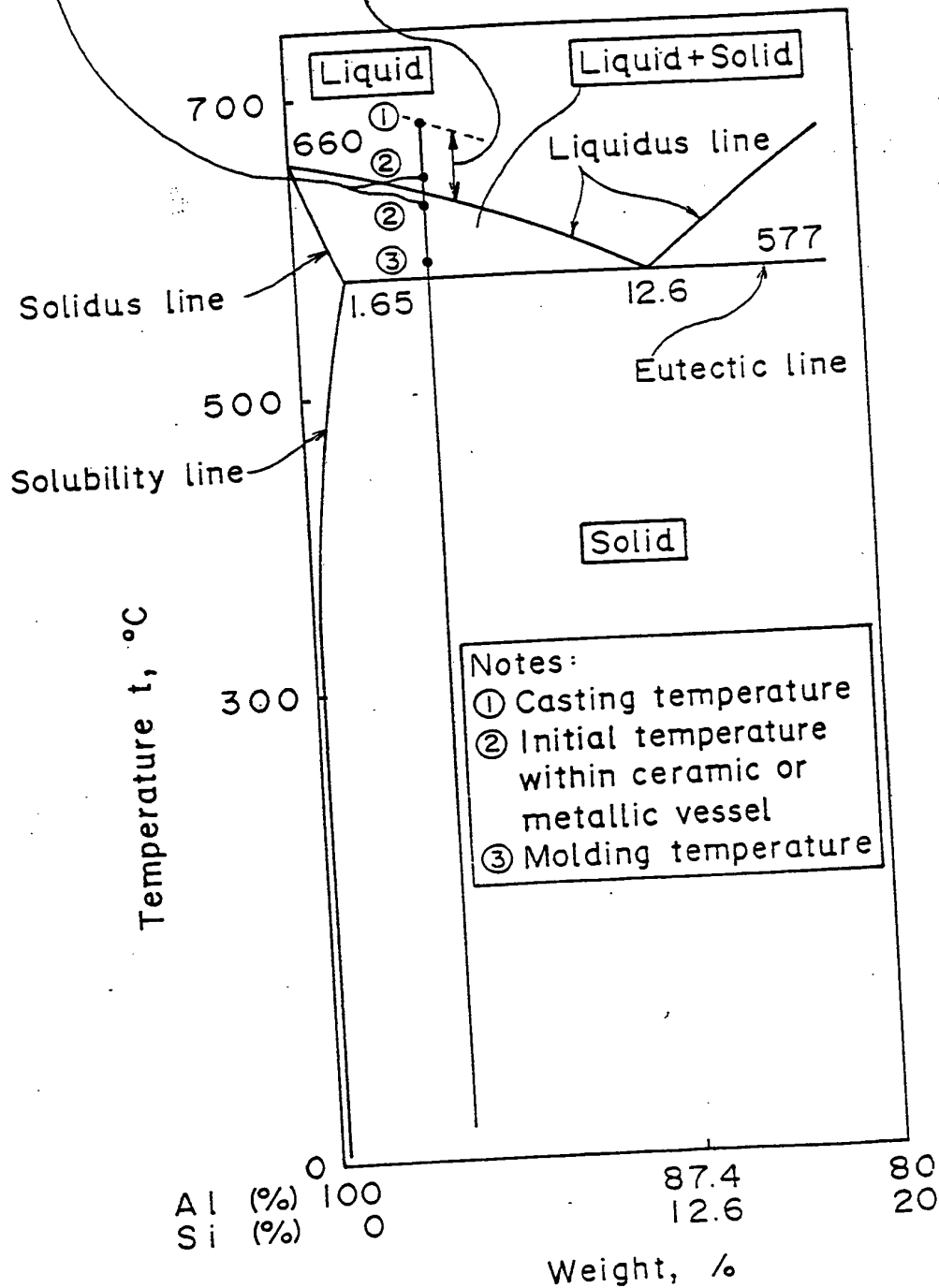


FIG. 6(a)

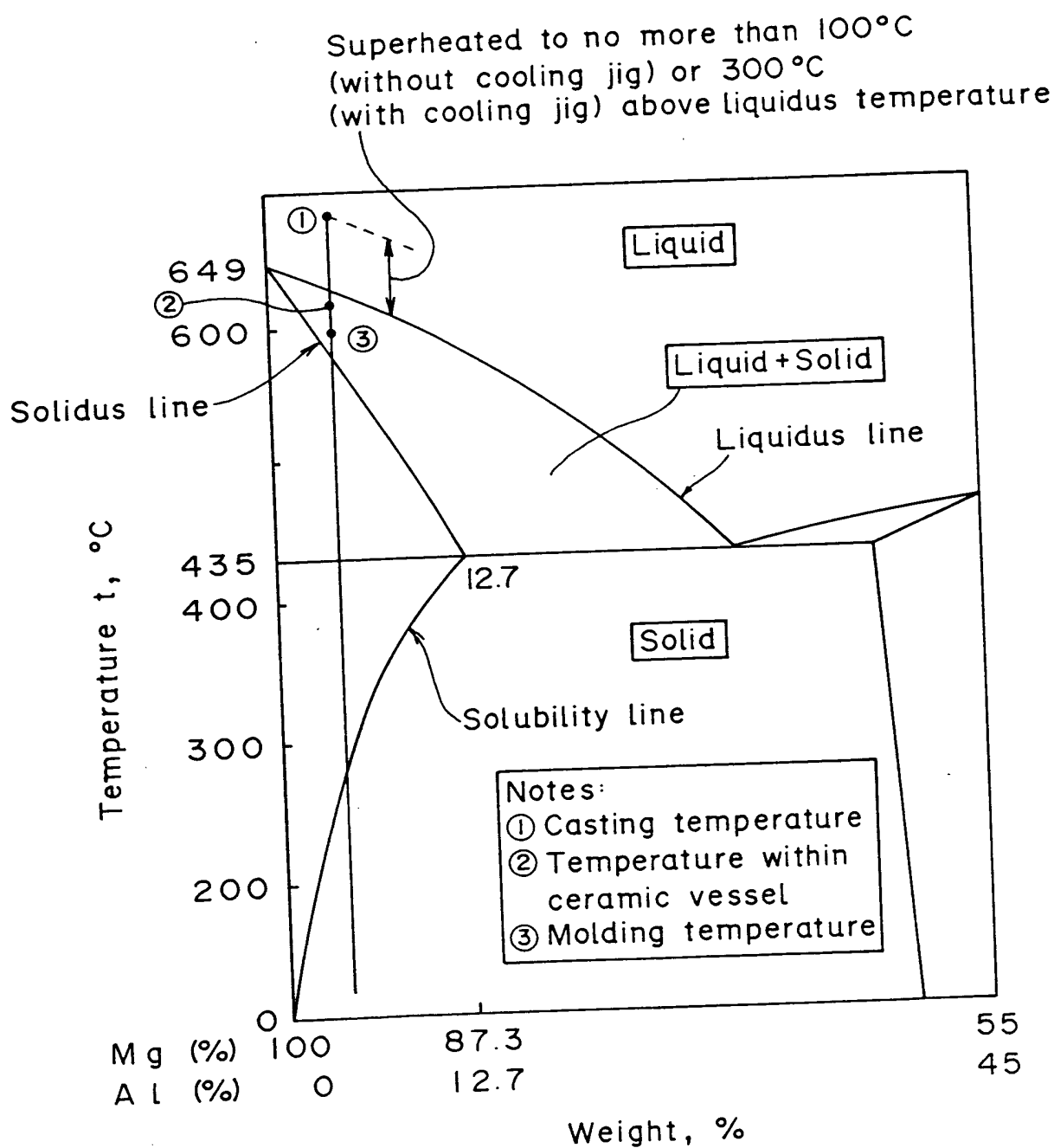


FIG. 6(b)

Temperature of melt depends on the case and may be higher or lower than the liquidus temperature

Superheated to no more than 50°C above liquidus temperature

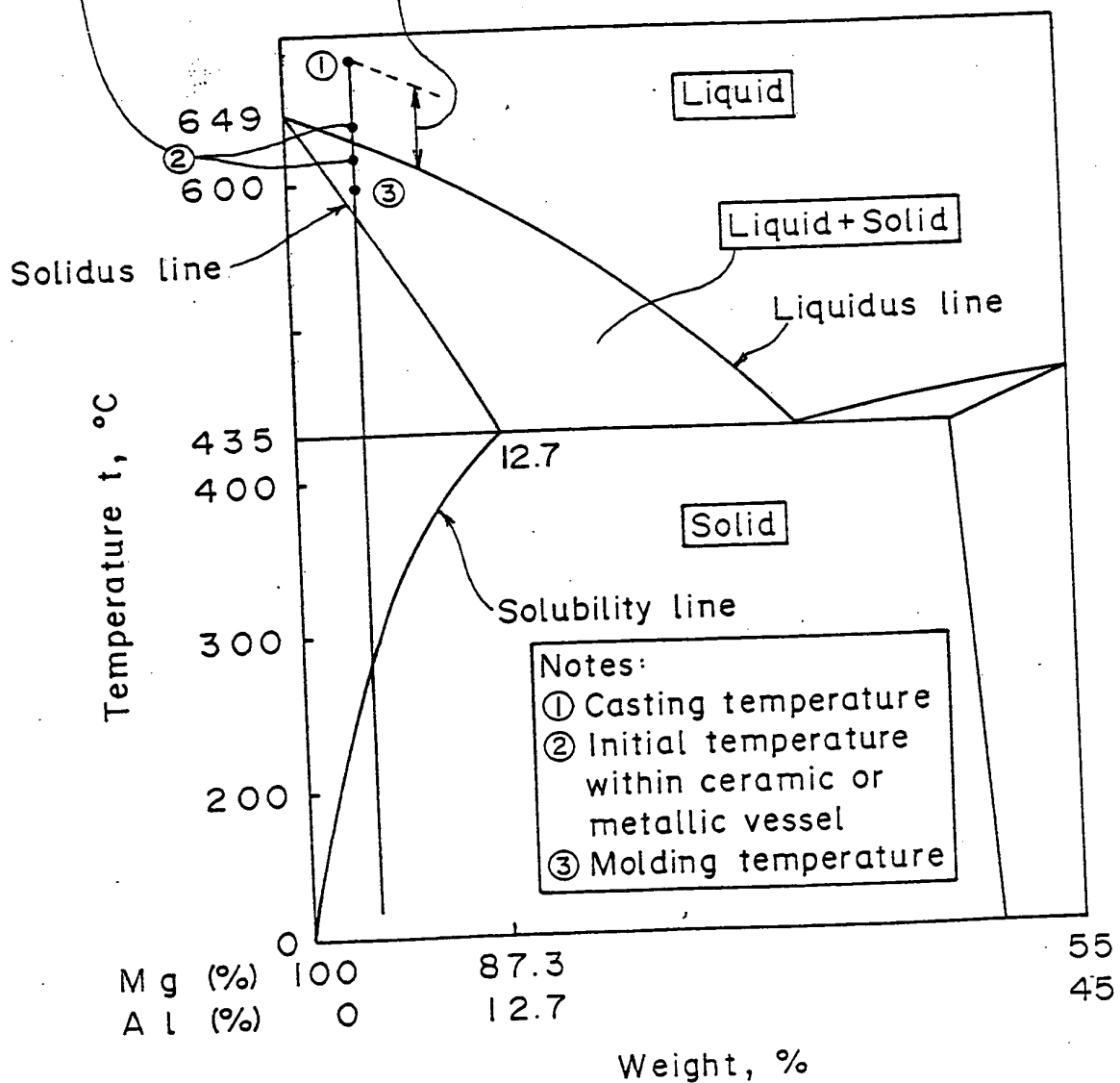


FIG. 7(a)

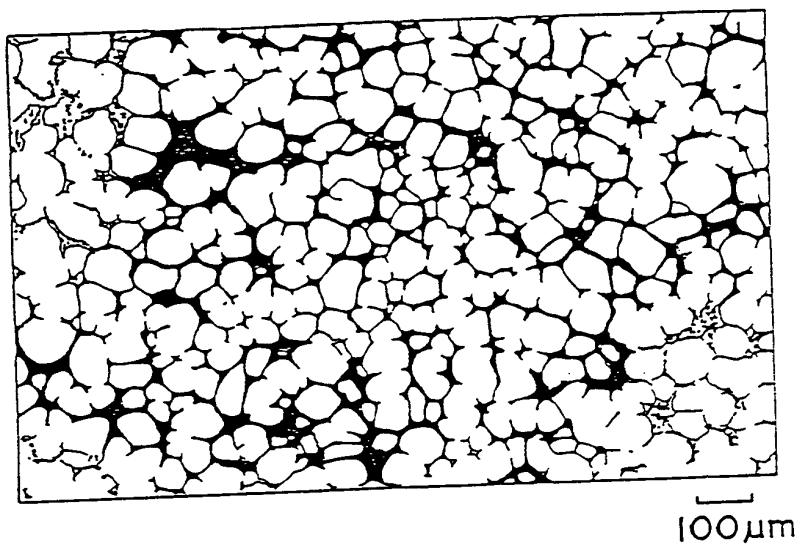
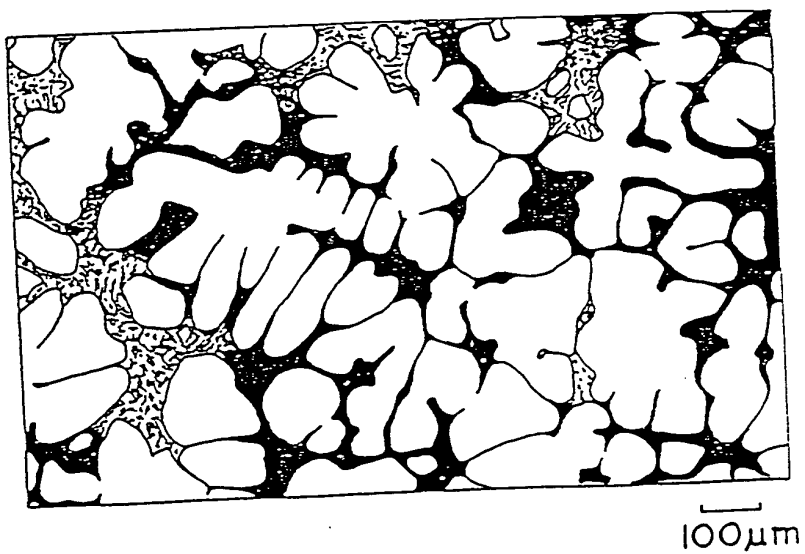
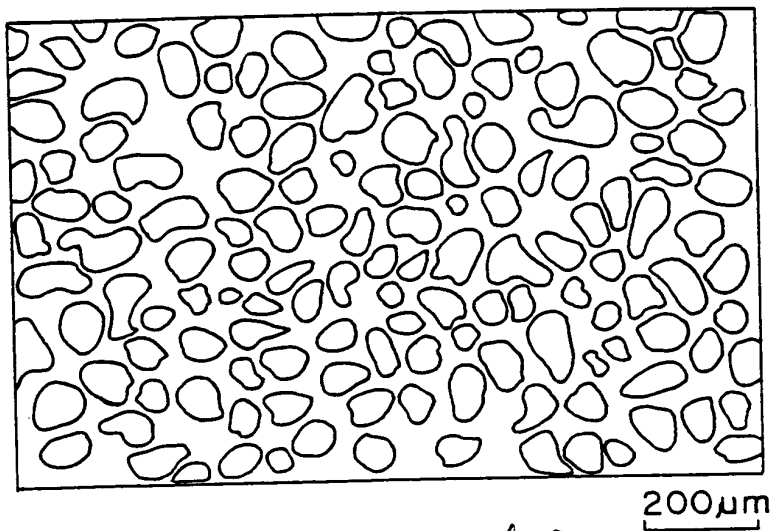
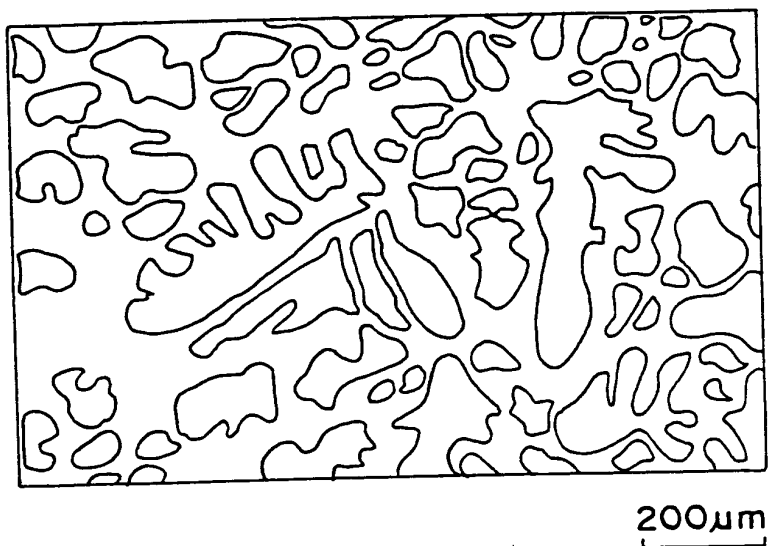


FIG. 8(a) Prior Art





**FIG. 7 (b)**



**FIG. 8 (b)**  
PRIOR ART

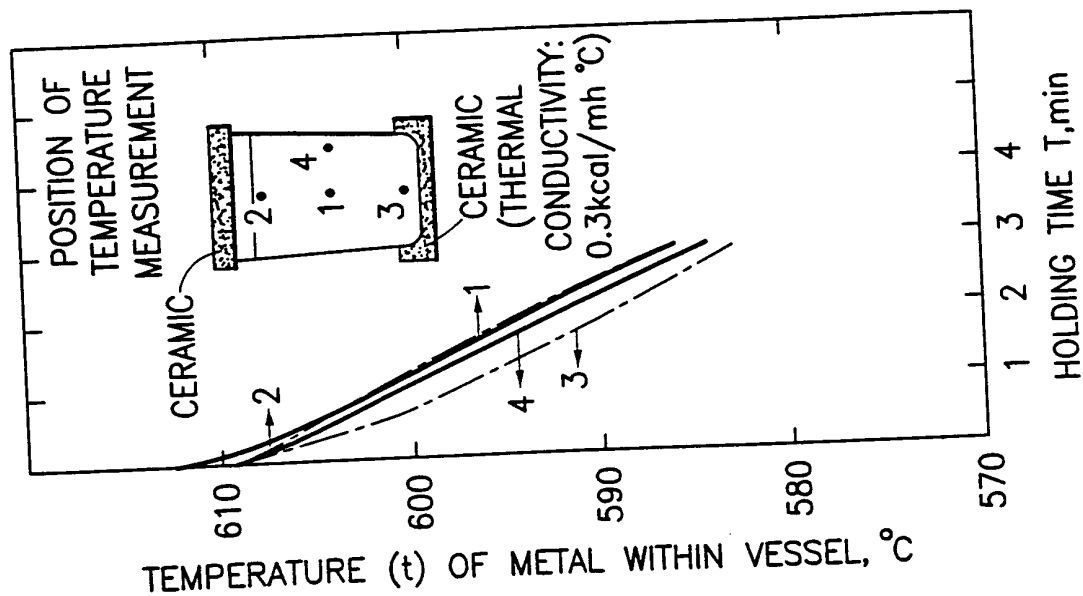


FIG. 75(b)

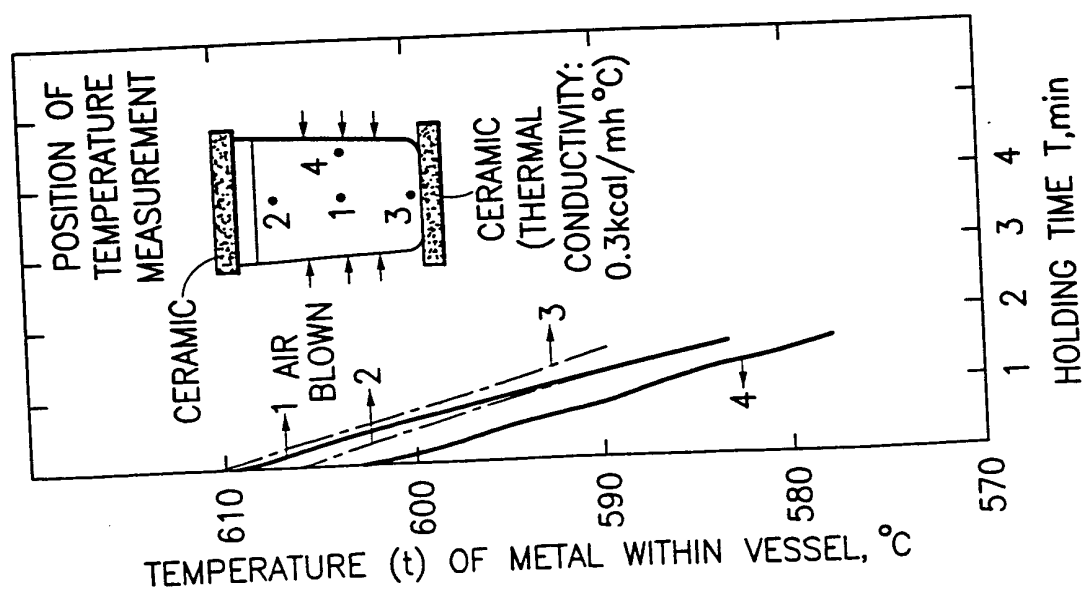


FIG. 75(a)

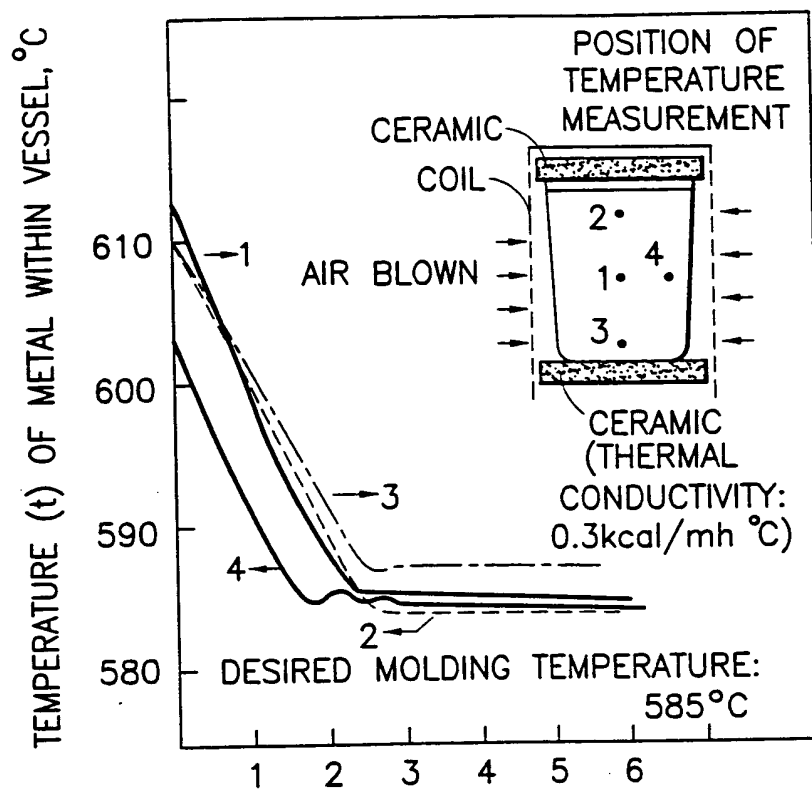


FIG. 76(a)

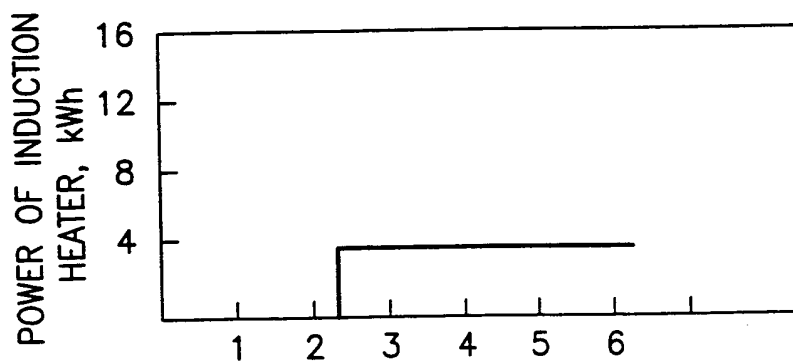


FIG. 76(b)

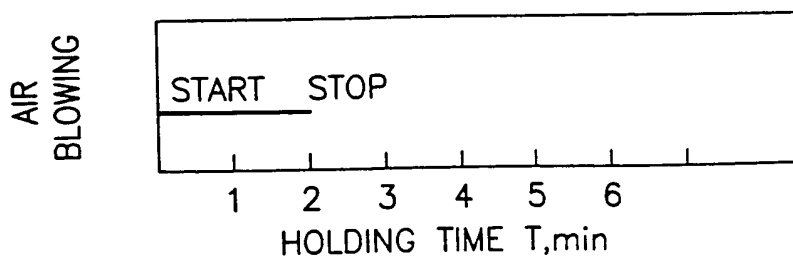


FIG. 76(c)

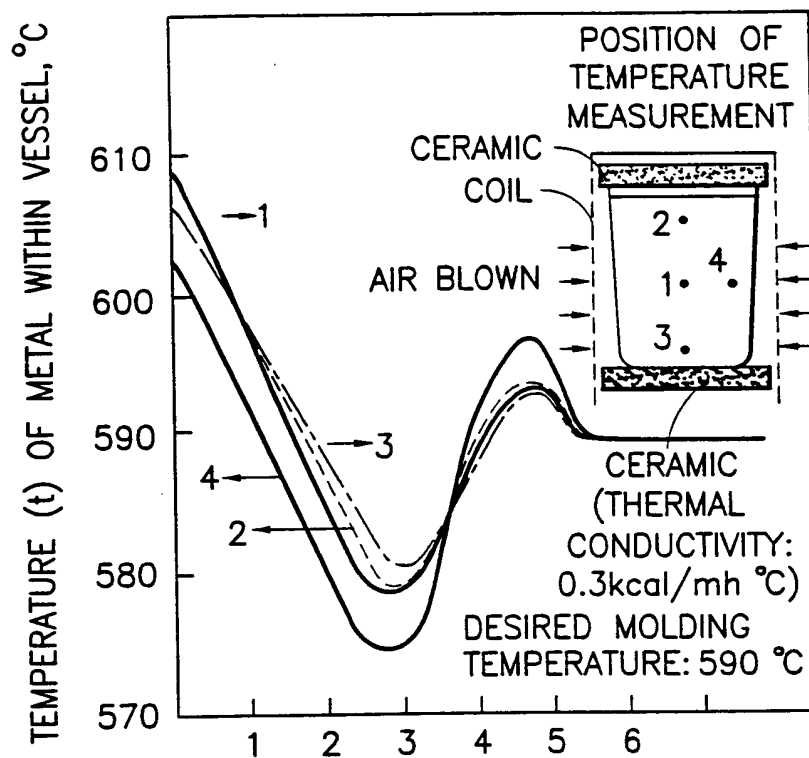


FIG. 77(a)

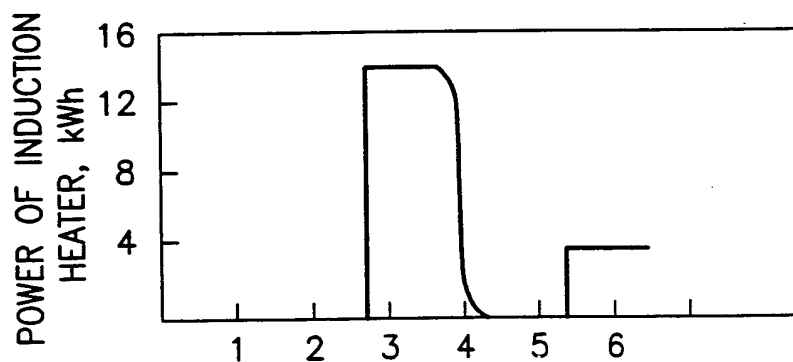


FIG. 77(b)

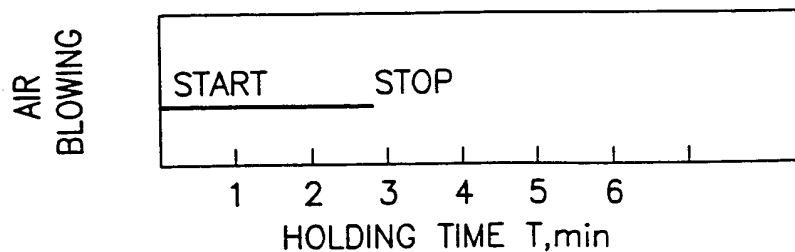
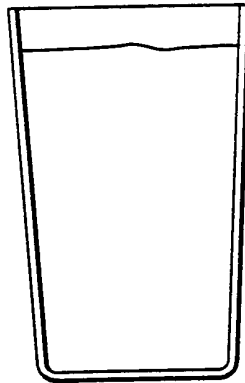


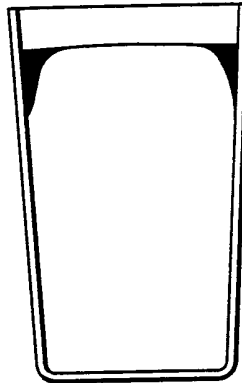
FIG. 77(c)





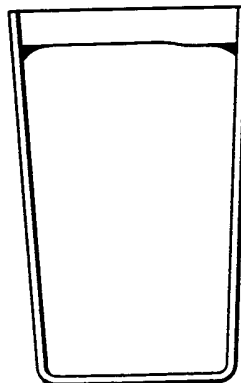
WHEN MOLDING TEMPERATURE IS REACHED

**FIG. 78(a)**



WHEN HEATED AND HELD WITH rf INDUCTION  
HEATER (AT 8 kHz) FOR 20 min AFTER  
MOLDING TEMPERATURE WAS REACHED

**FIG. 78(b)**



WHEN HEATED AND HELD WITH rf INDUCTION  
HEATER (AT 40 kHz) FOR 20 min AFTER  
MOLDING TEMPERATURE WAS REACHED

**FIG. 78(c)**



FIG. 80  
AC4CH(Al-7Si-0.3Mg-0.15Ti)

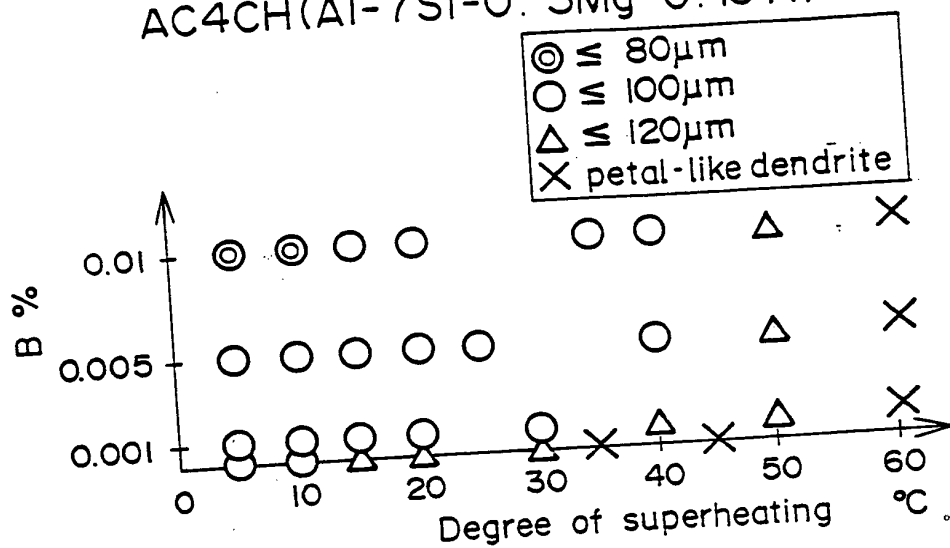


FIG. 81  
7075(Al-5.5Zn-2.5Mg-1.6Cu-0.15Ti)

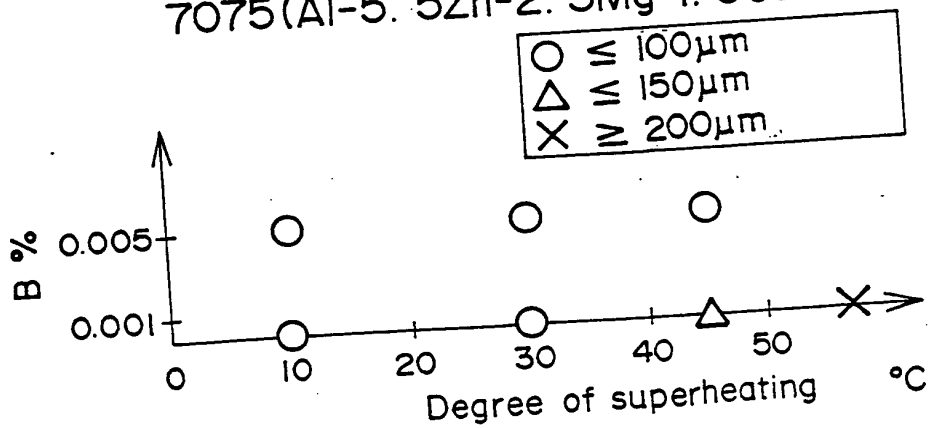


FIG. 82

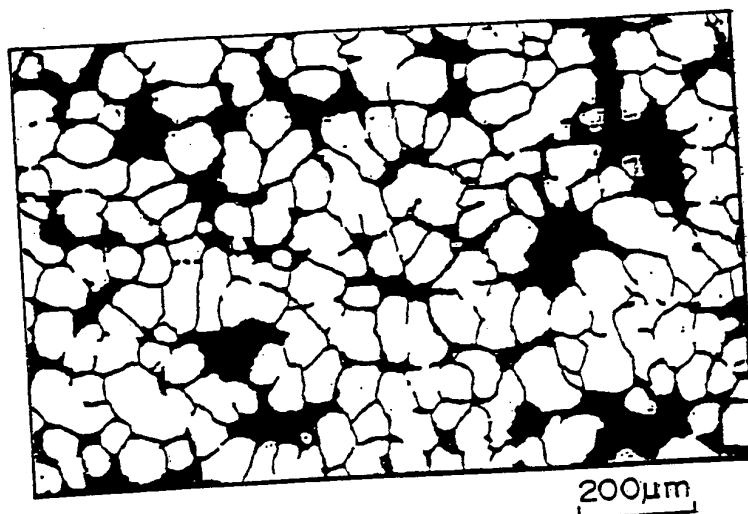


FIG. 93

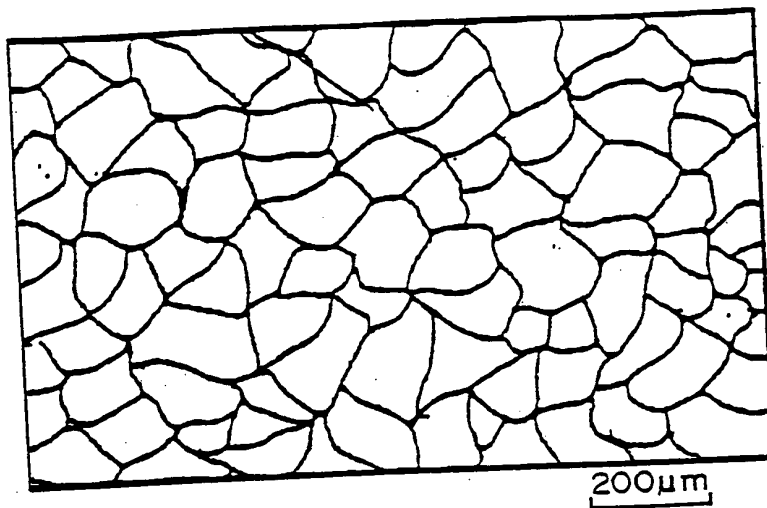


FIG. 94

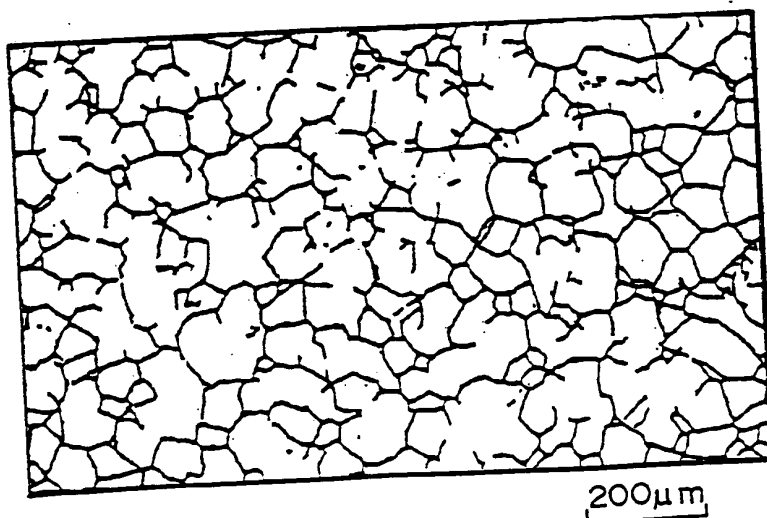


FIG. 85 Prior Art

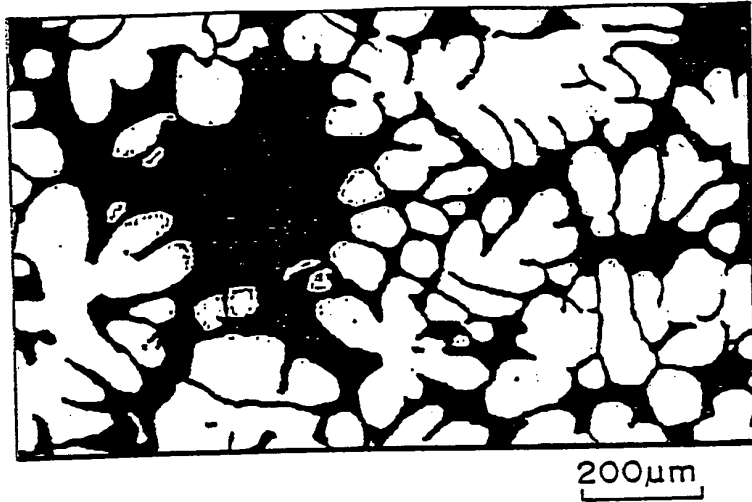


FIG. 86 Prior Art

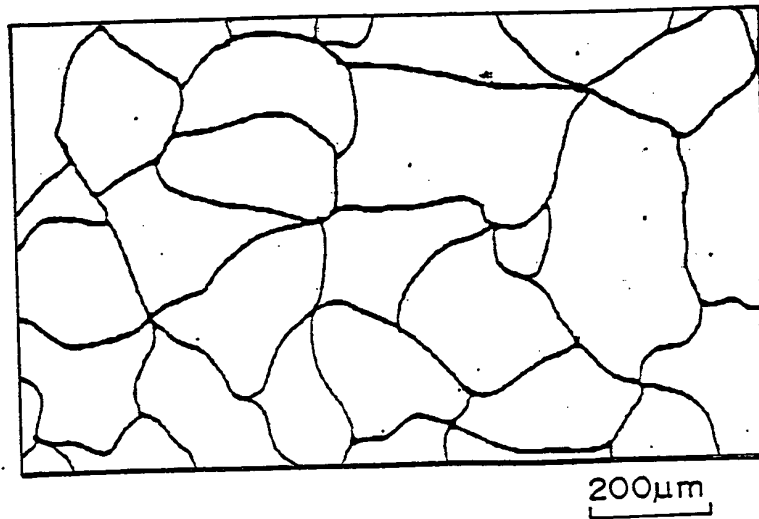


FIG. 87 Prior Art

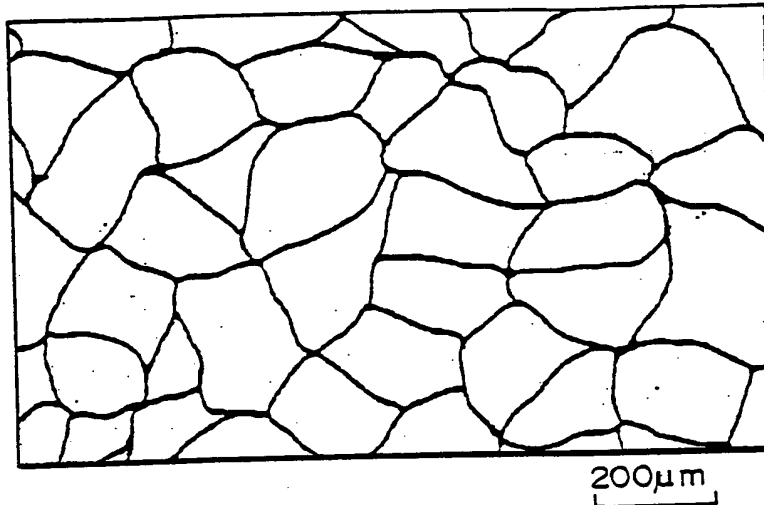


FIG. 88 Prior Art

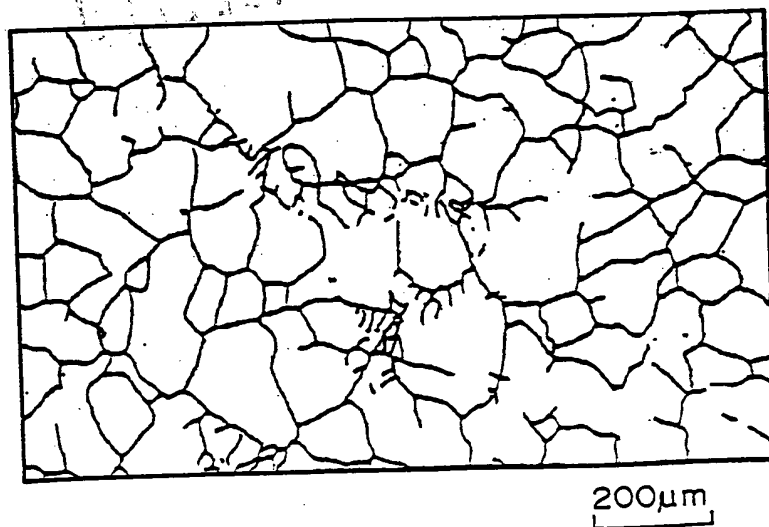
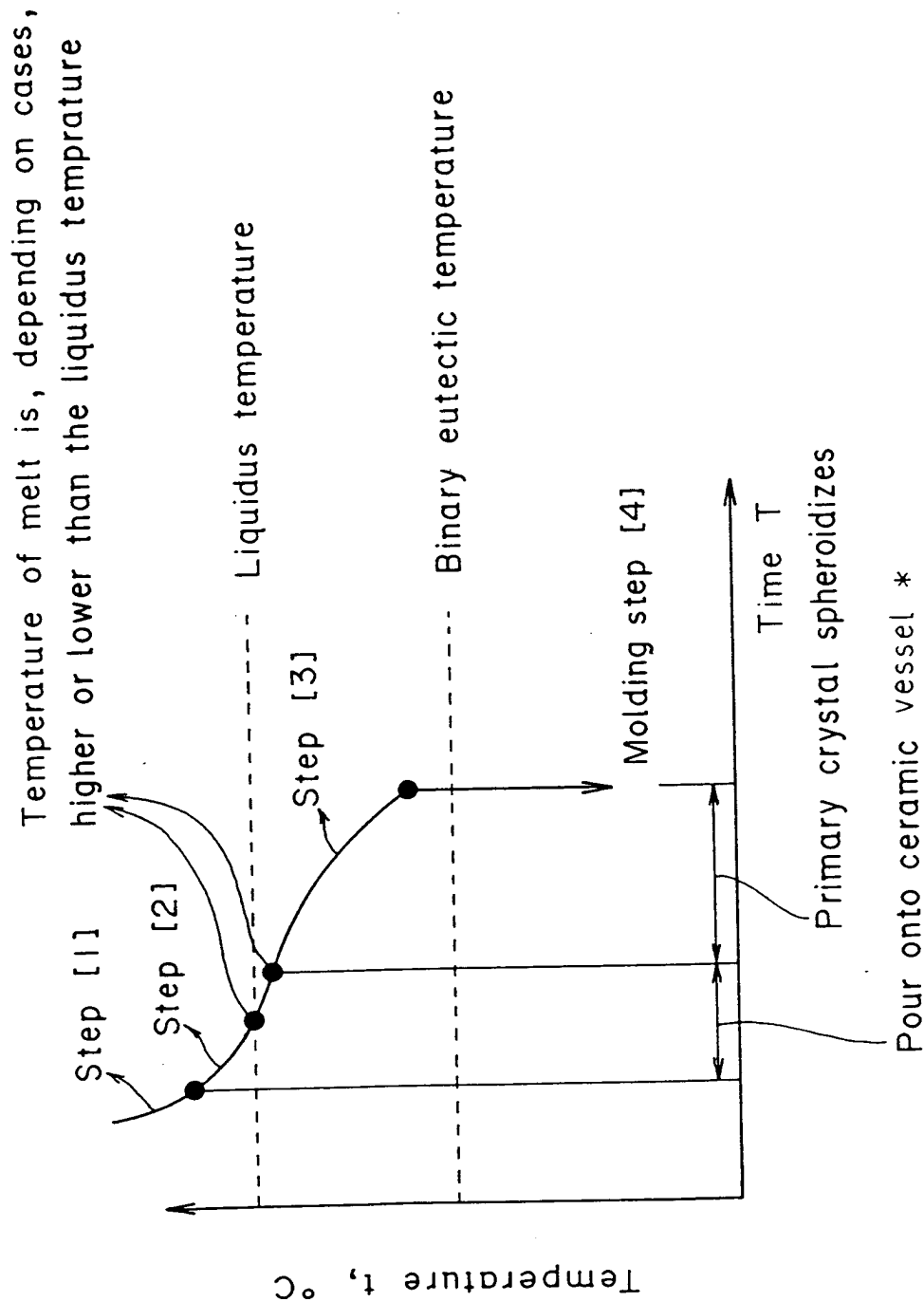


FIG. 9

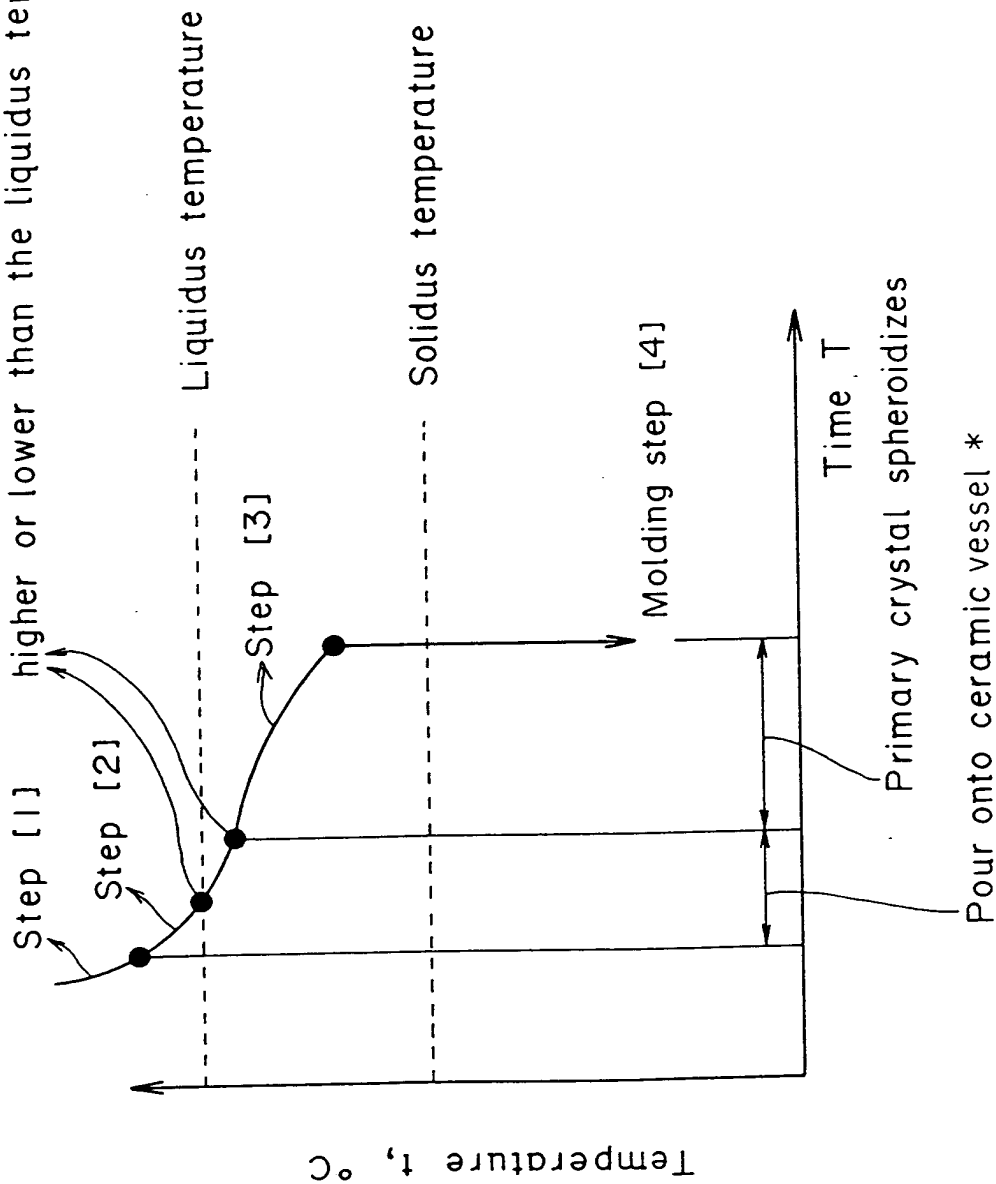


\* With or without cooling jig



FIG. 10

Temperature of melt is, depending on cases,  
higher or lower than the liquidus temperature



\* With or without cooling jig

FIG. 11

Temperature of melt is, depending on cases, higher or lower than the liquidus temperature

Superheated to no more than 100°C (without cooling jig) or 300°C (with cooling jig) above liquidus temperature

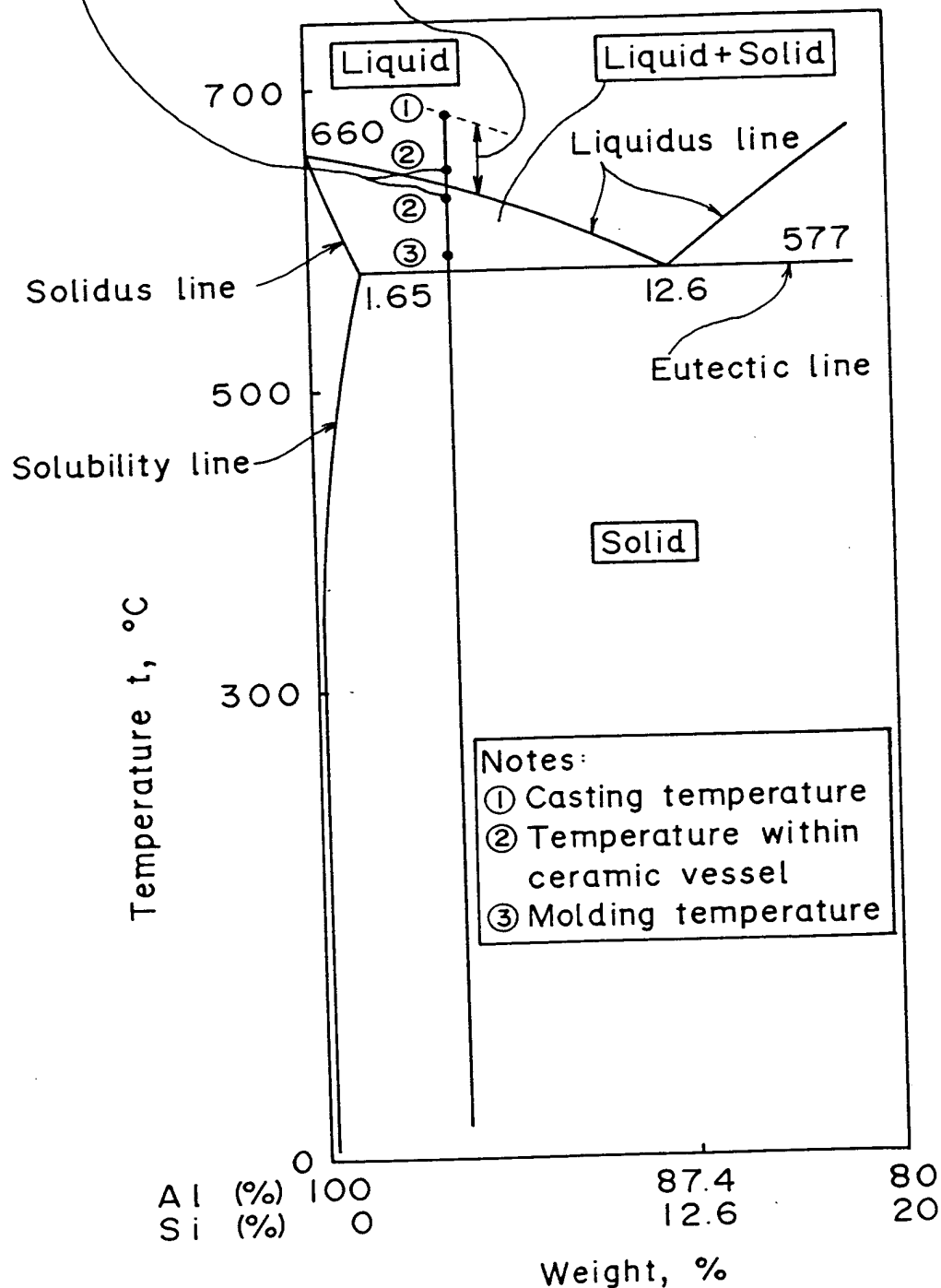
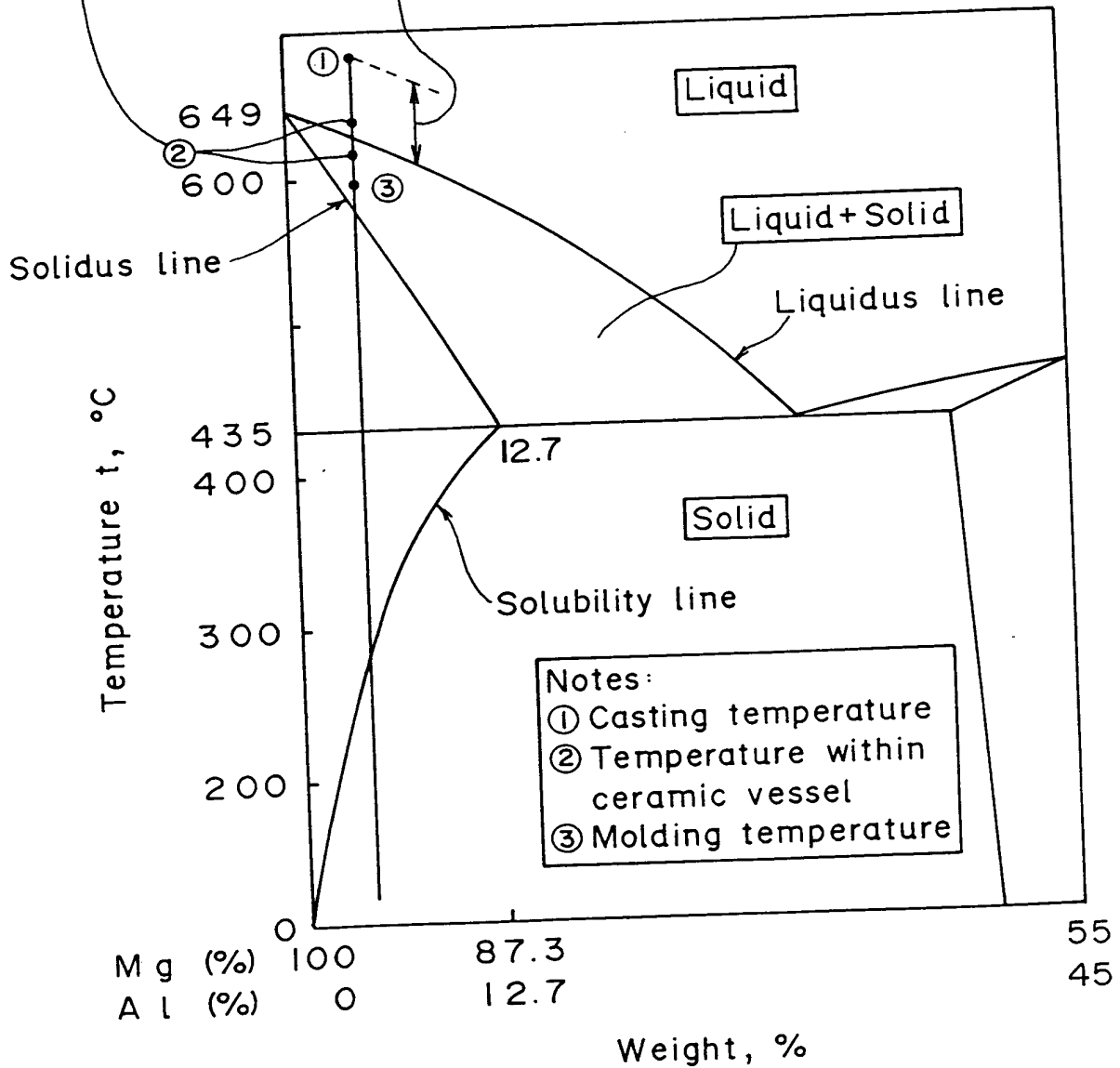


FIG. 12

Temperature of melt is, depending on cases, higher or lower than the liquidus temperature

Superheated to no more than 100°C (without cooling jig) or 300°C (with cooling jig) above liquidus temperature



APPROVED	DATE
BY	CLASS/SUBCLASS
DRAFTSMAN	

FIG. 13

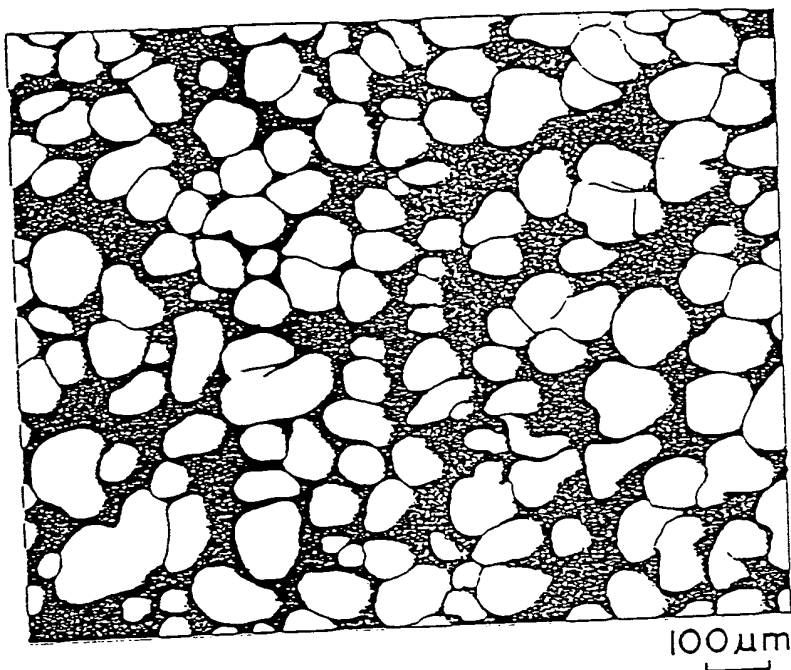
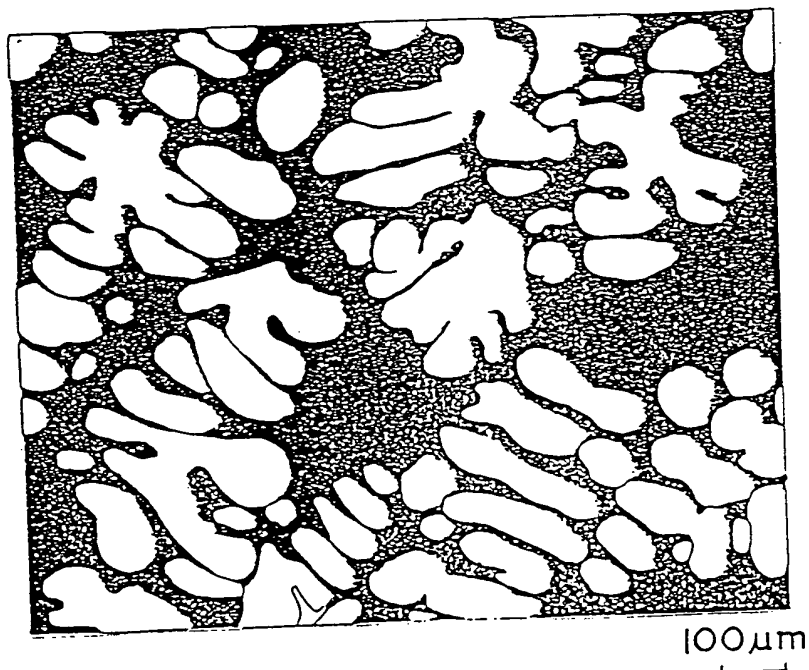
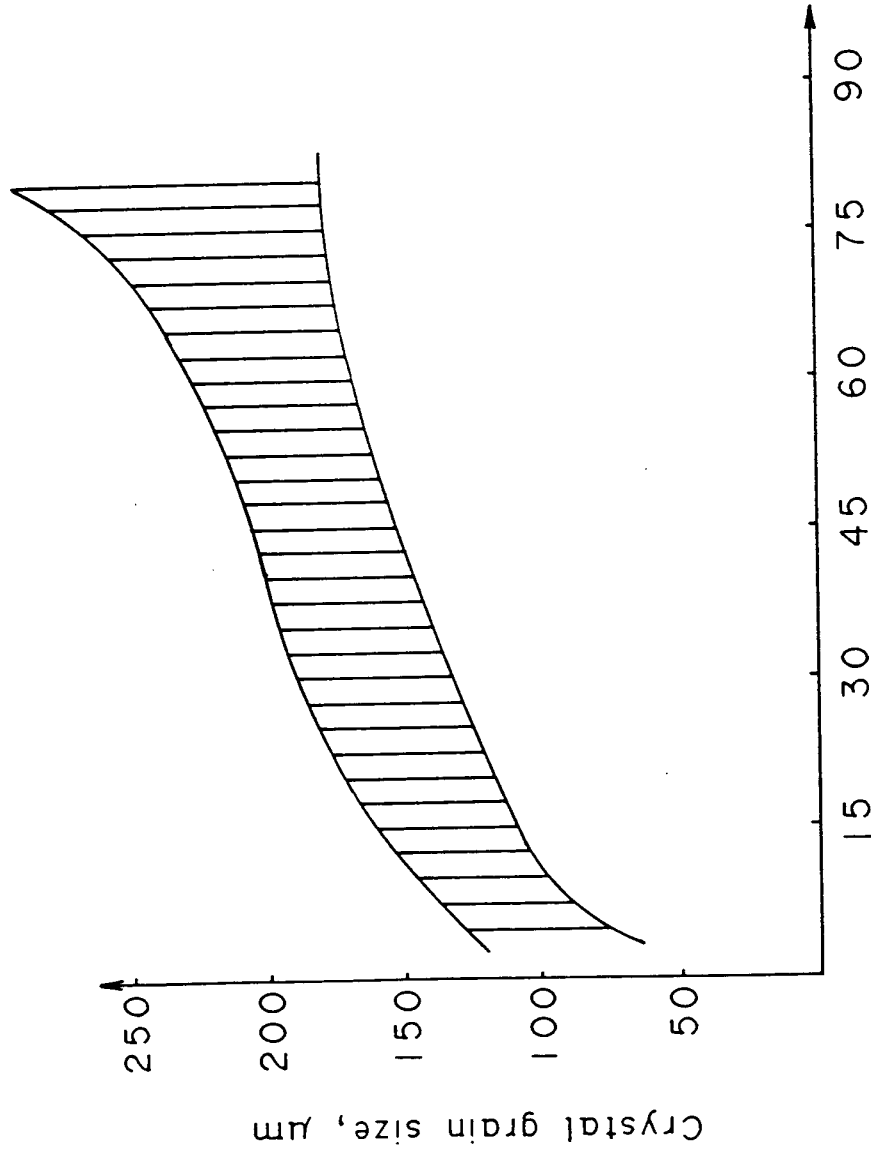


FIG. 14 Prior Art



APPROVED	DATE	
BY	CLASS	SUBJECT
DRAFTSMAN		

FIG. 15



Holding time from the initial temperature  
in insulated vessel to the molding temperature, min

APPROVED	DATE	
BY	CLASS	SUBJECT
DRAFTSMAN		

FIG. 16

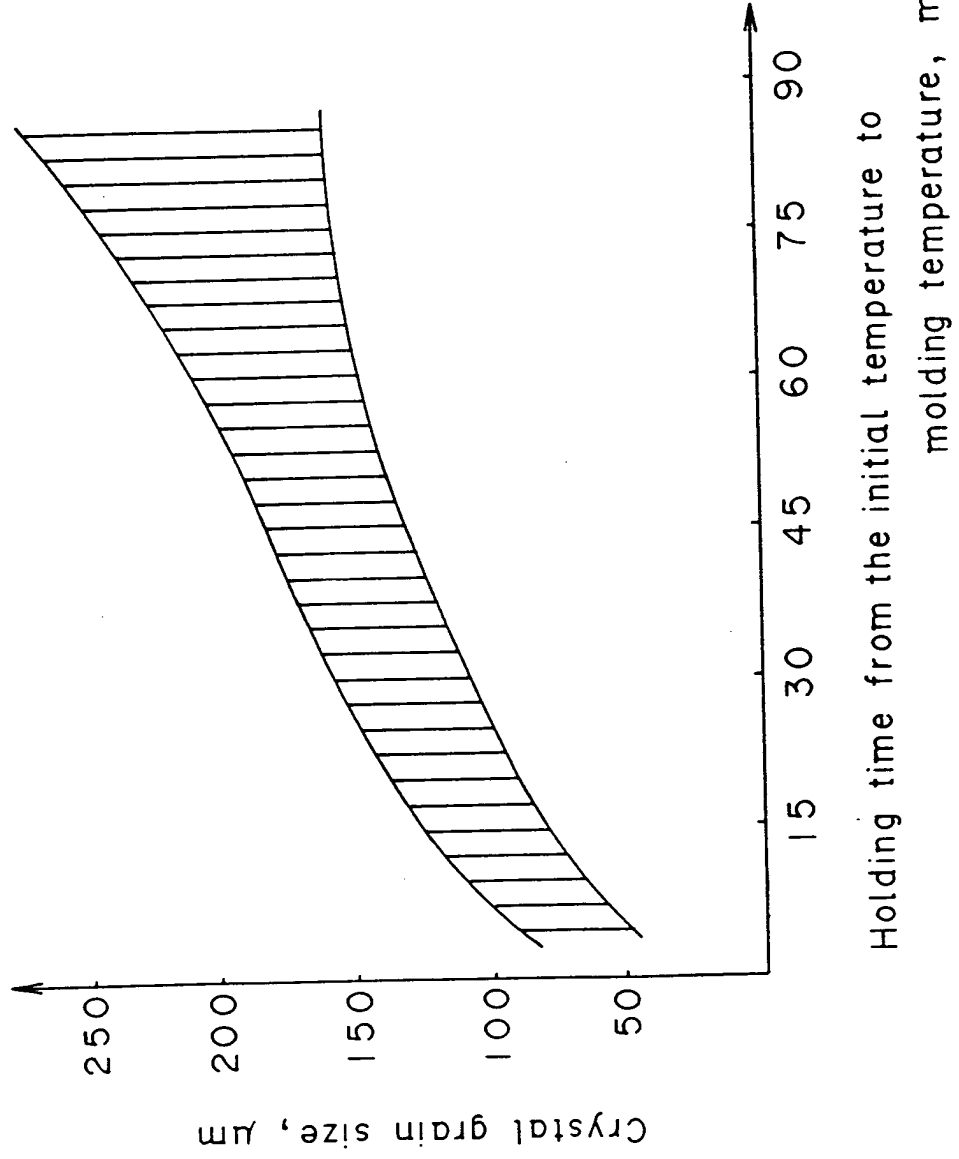
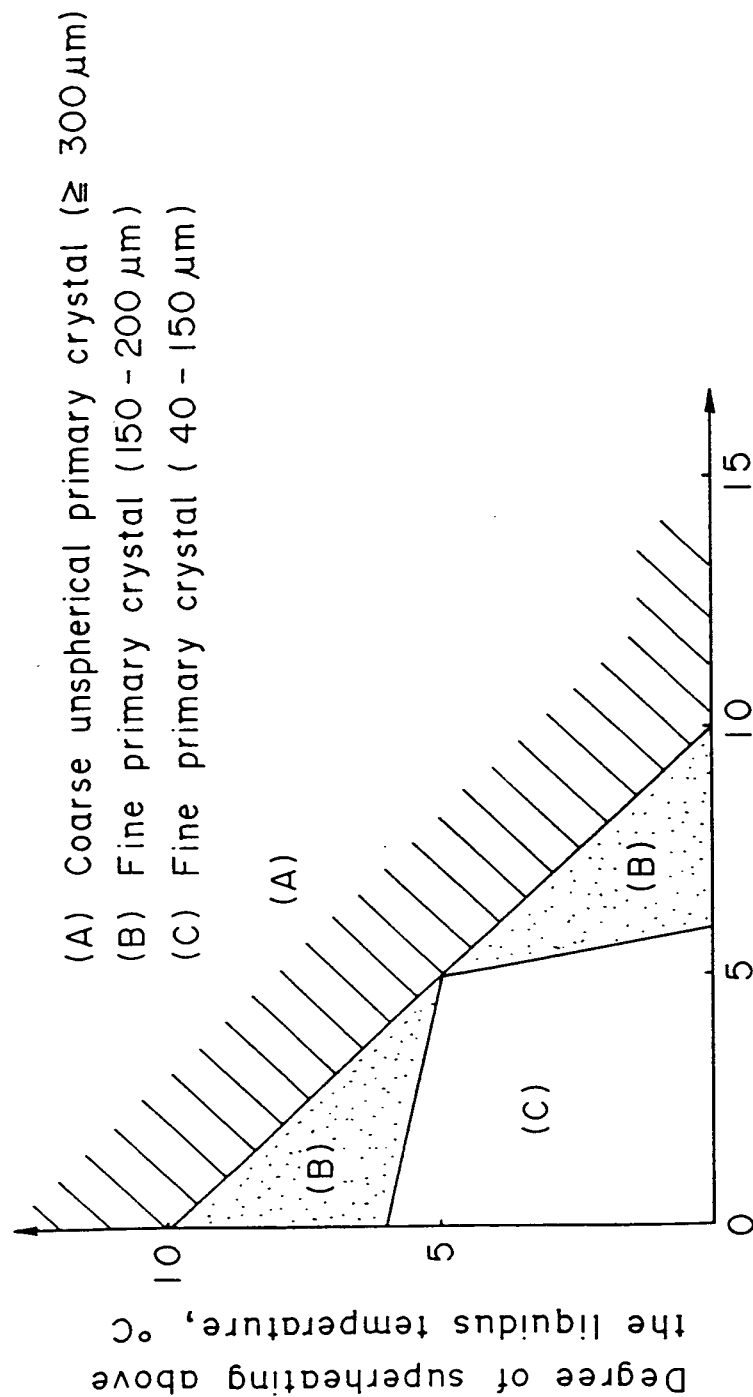
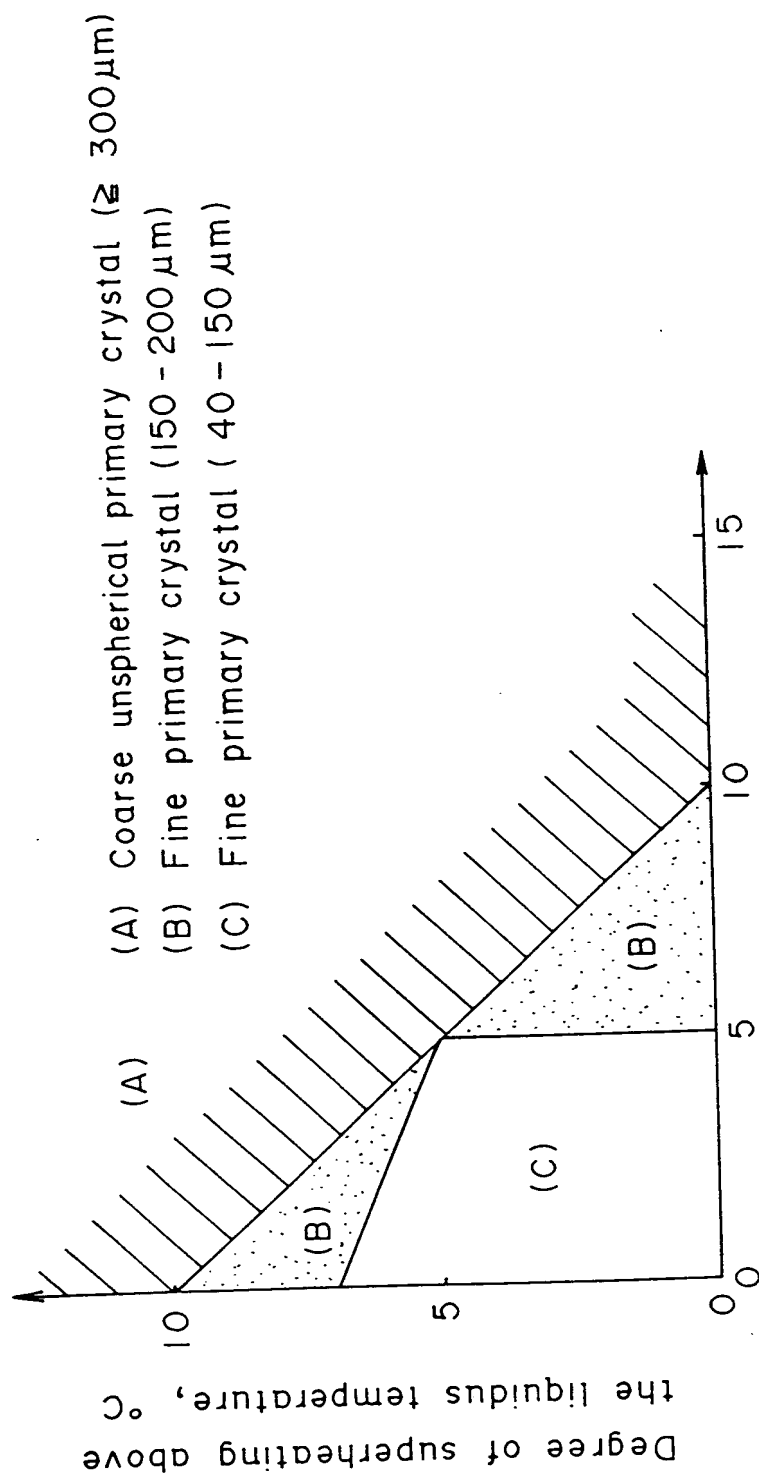


FIG. 17



Holding time from the initial temperature  
 in insulated vessel to the liquidus temperature, min

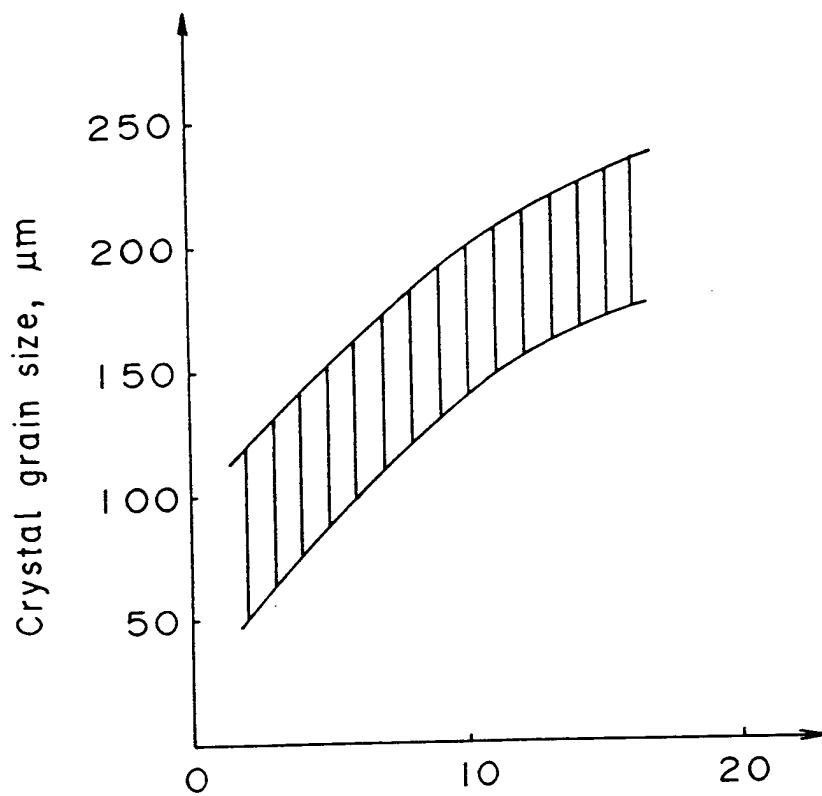
FIG. 18



Holding time from the initial temperature in insulated vessel to the liquidus temperature, min

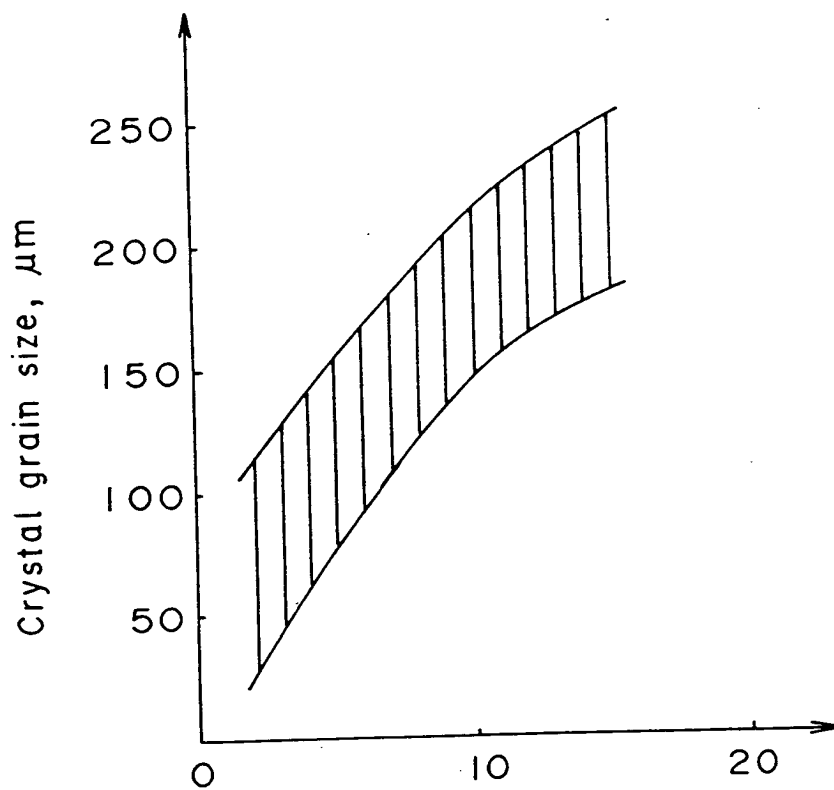


FIG. 19



Holding time from the initial temperature  
in insulated vessel to the liquidus  
temperature minus  $5^{\circ}\text{C}$ , min

FIG. 20



Holding time from the initial temperature  
in insulated vessel to the liquidus  
temperature minus  $5^{\circ}\text{C}$ , min

FIG. 21

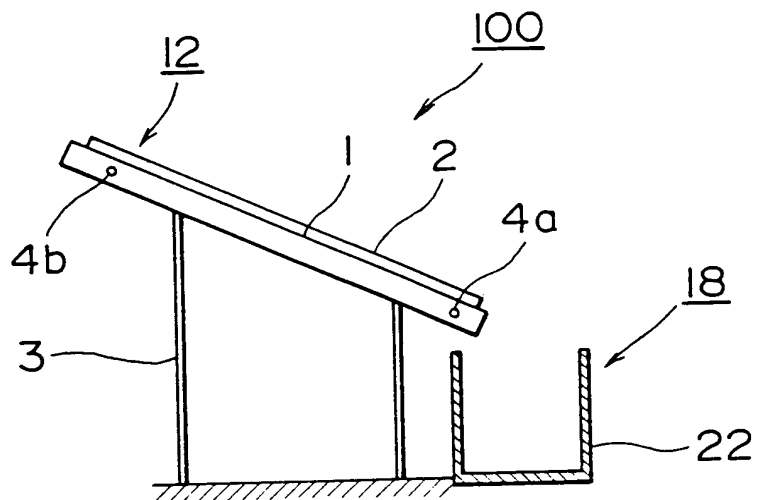


FIG. 22

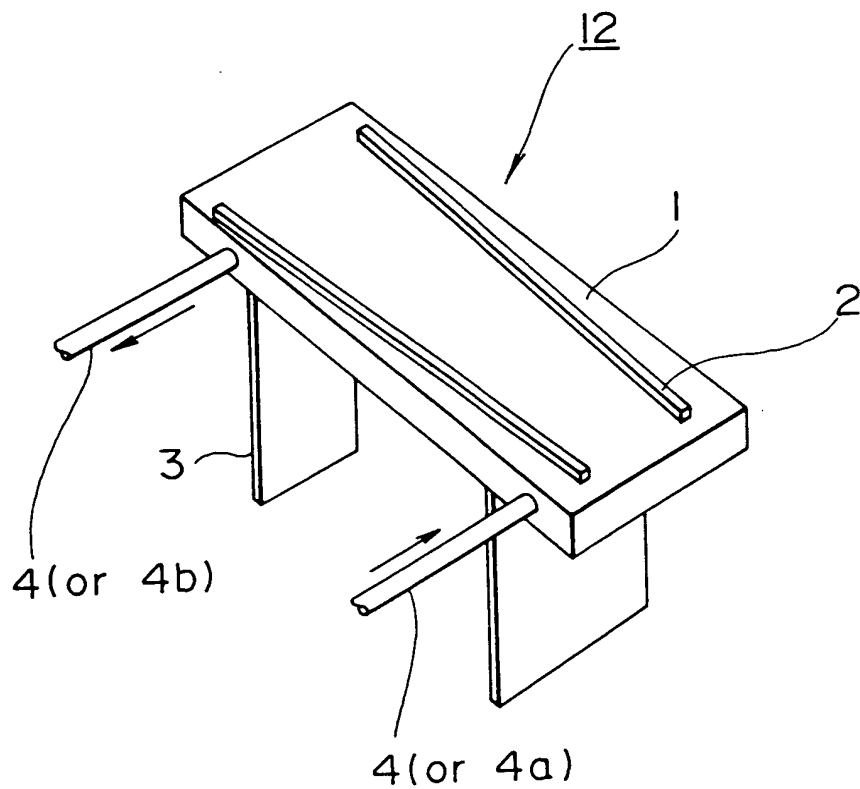


FIG. 23(a)

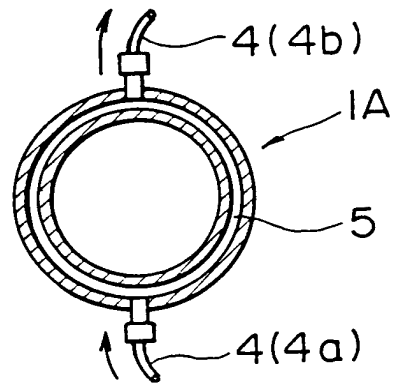


FIG. 23(b)

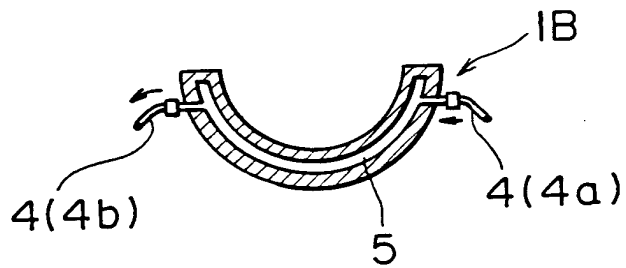


FIG. 24

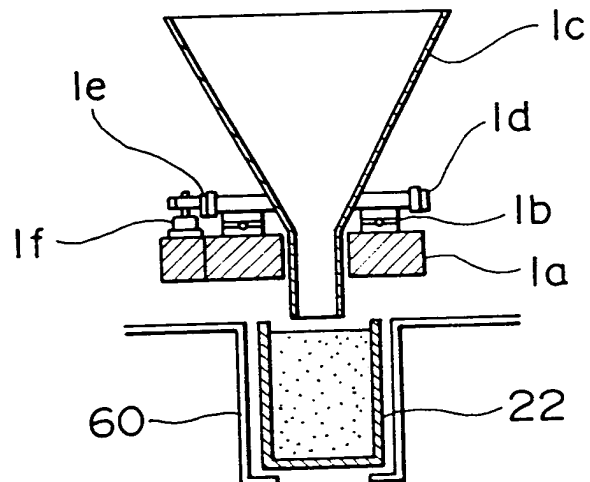


FIG. 25

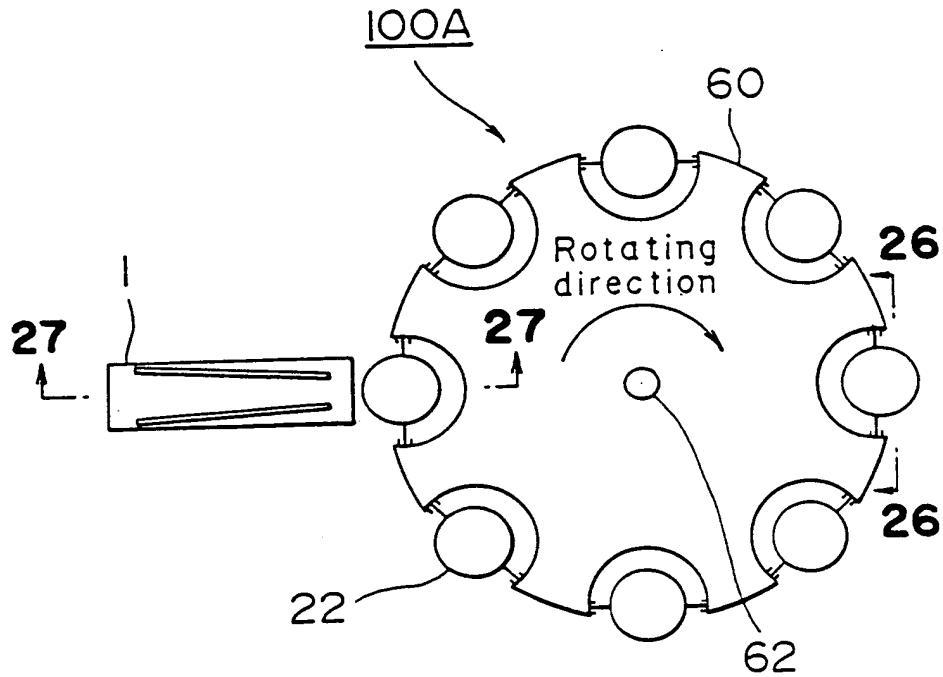


FIG. 26

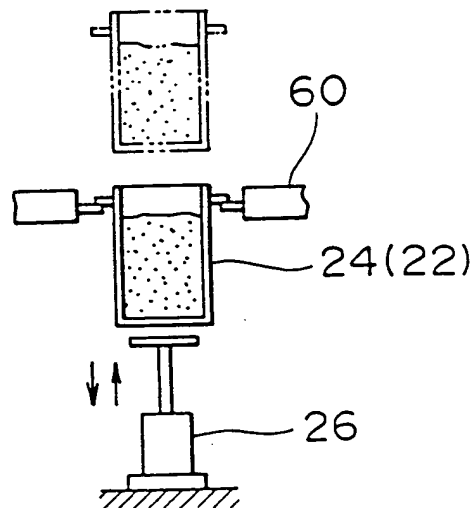


FIG. 27

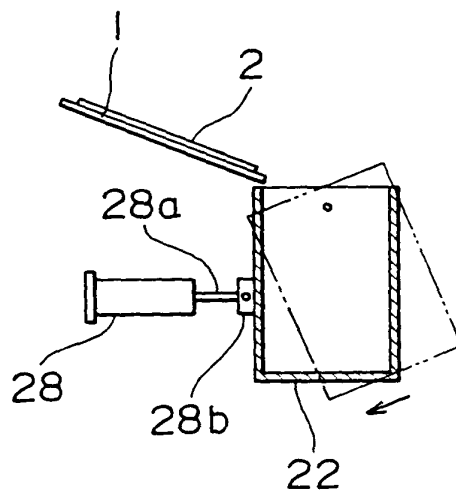


FIG. 28

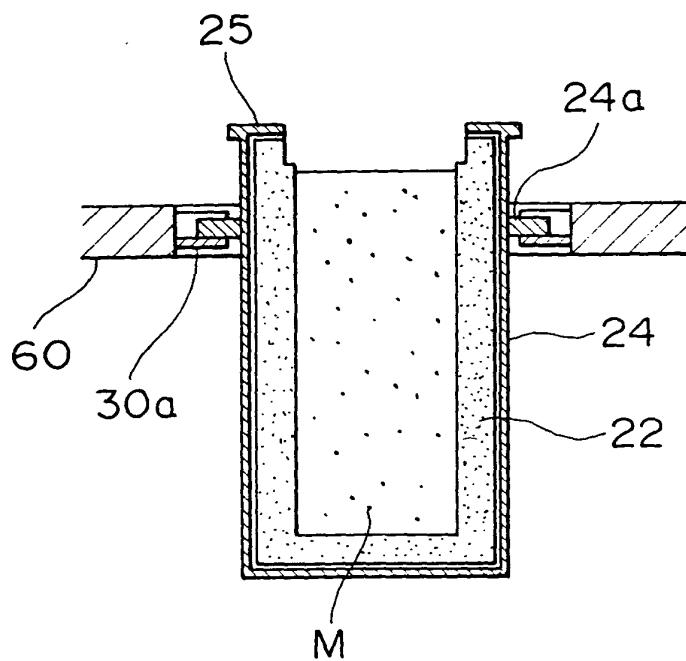
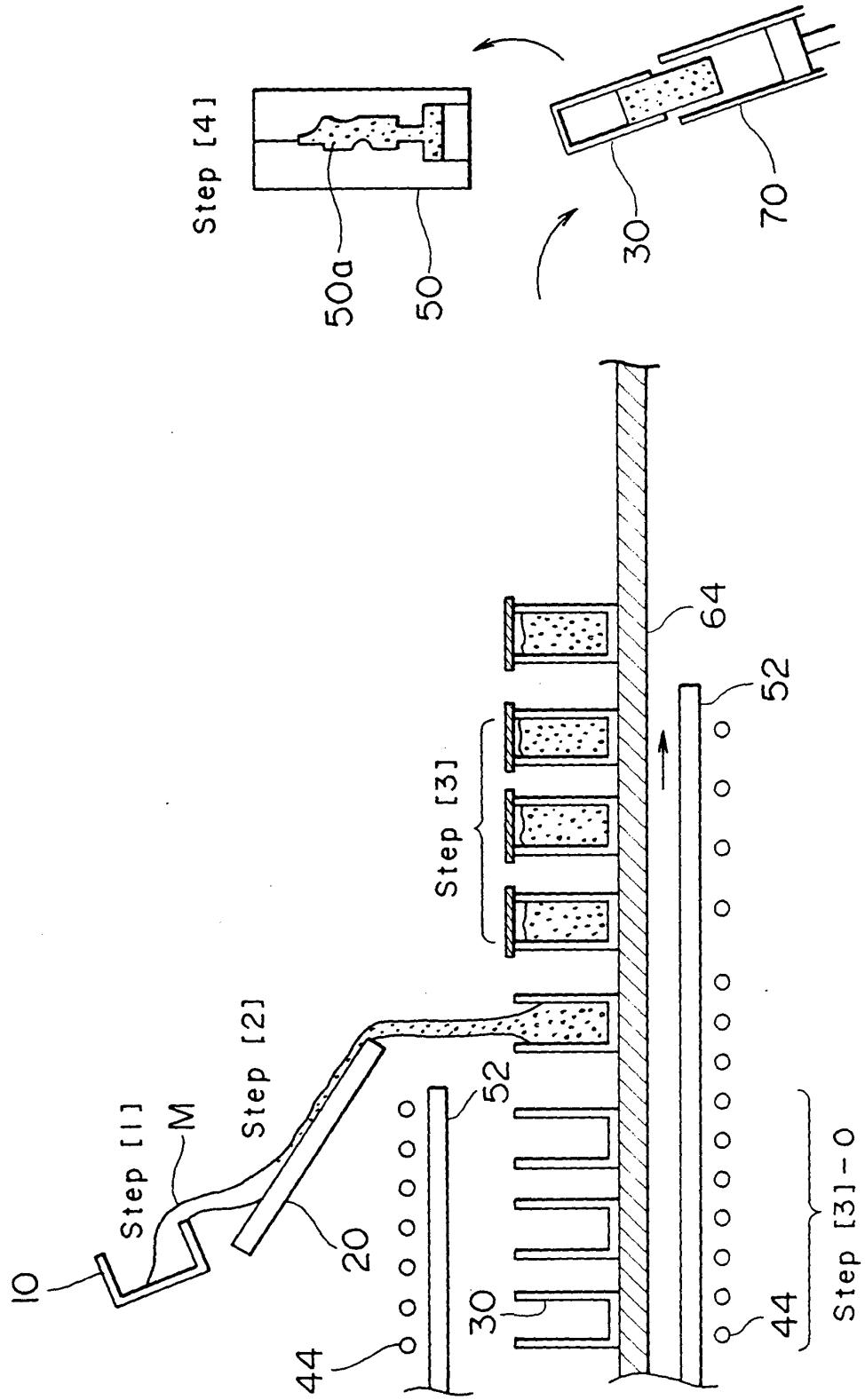


FIG. 29



DATE 10-3-66

FIG. 30(a)

Left to cool at  
both top and bottom

5mm-thick stainless steel vessel

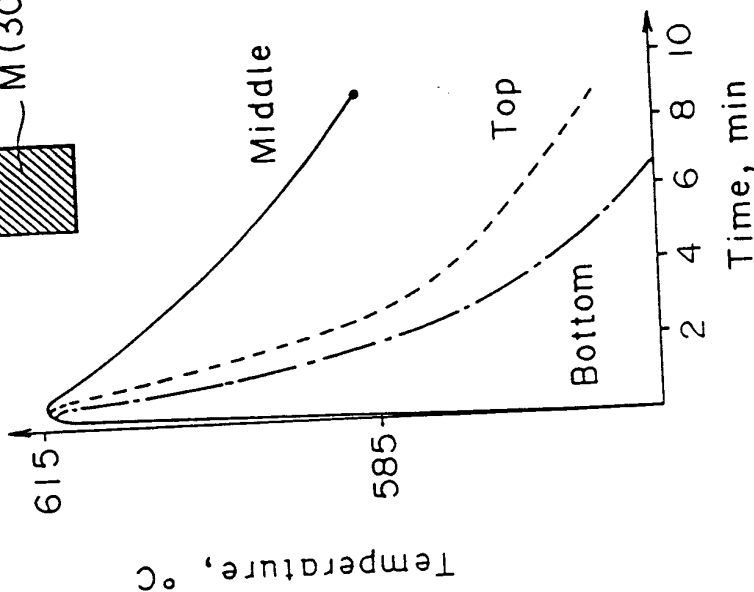
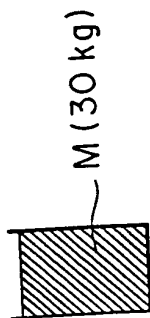


FIG. 30(b)

Heat-retained at top  
but heated at bottom

Ceramic cover

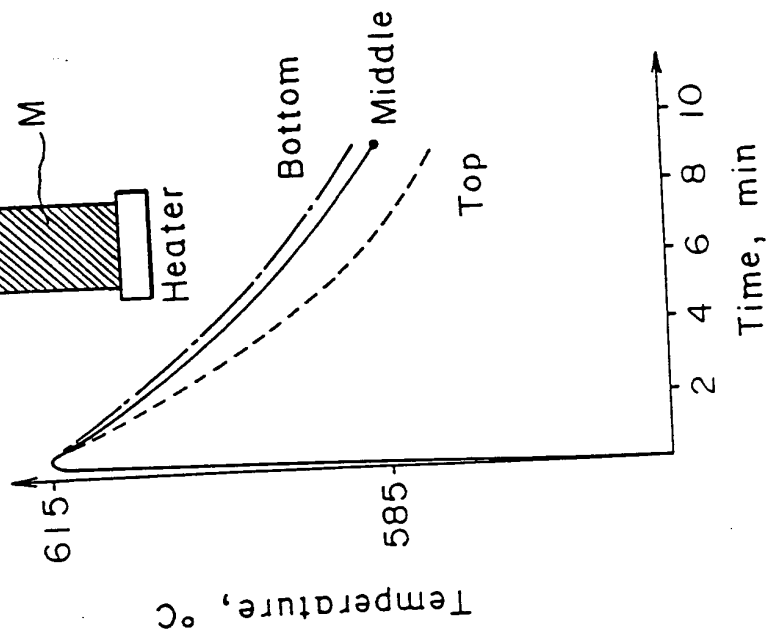
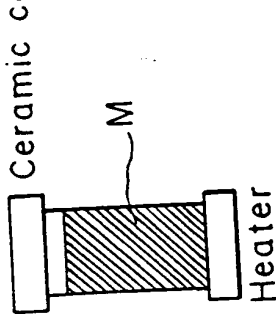
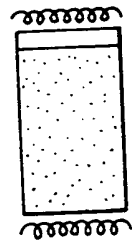




FIG. 31(a)

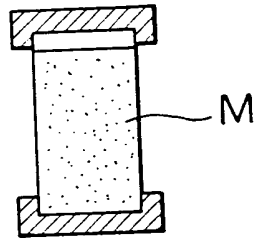
Heated



Heated

FIG. 31(b)

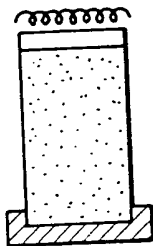
Heat-retained



Heat-retained

FIG. 31(c)

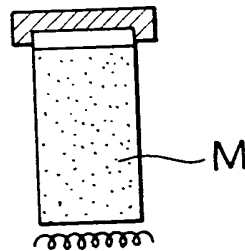
Heated



Heat-retained

FIG. 31(d)

Heat-retained



Heated

FIG. 32

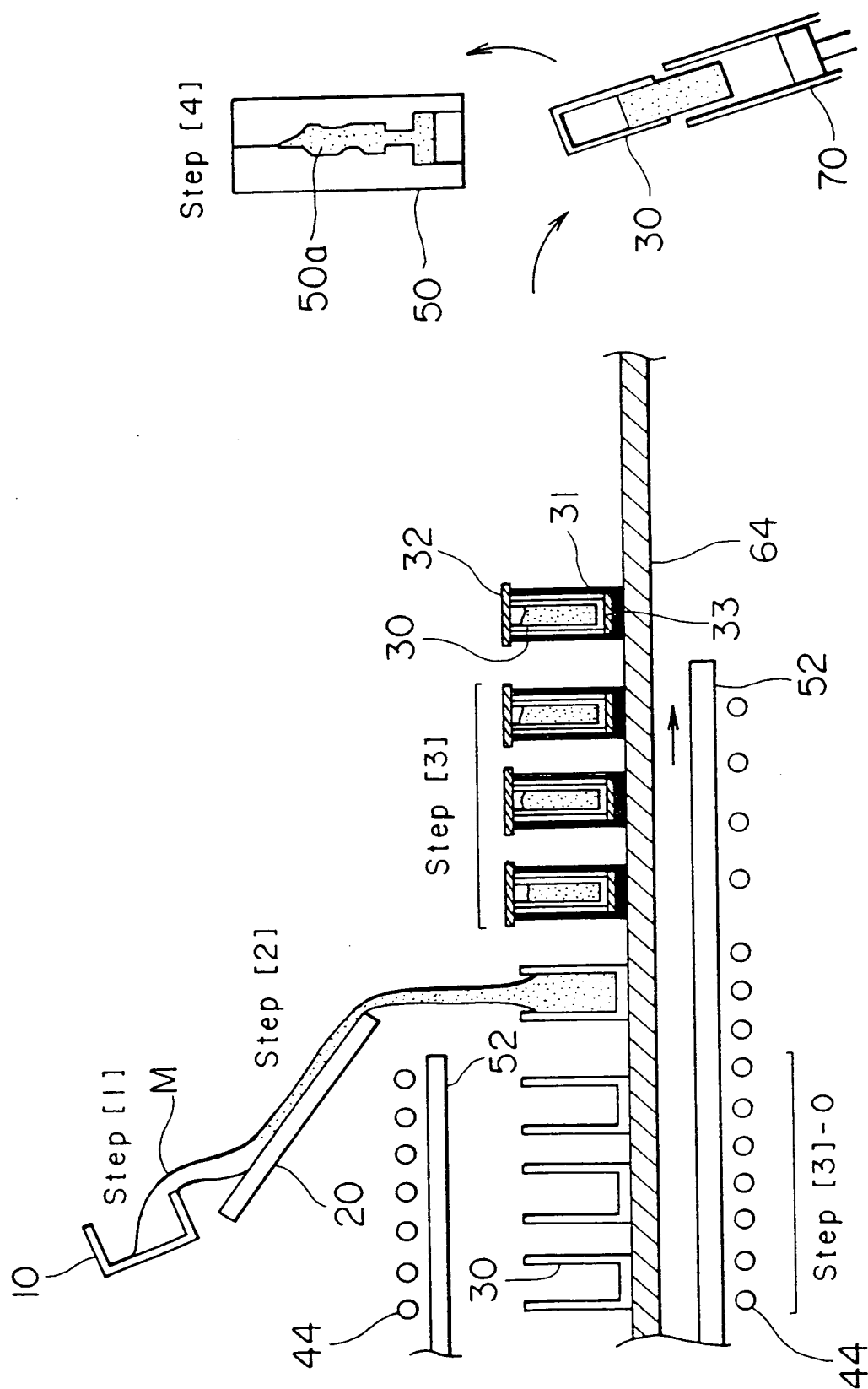


FIG. 33(a)

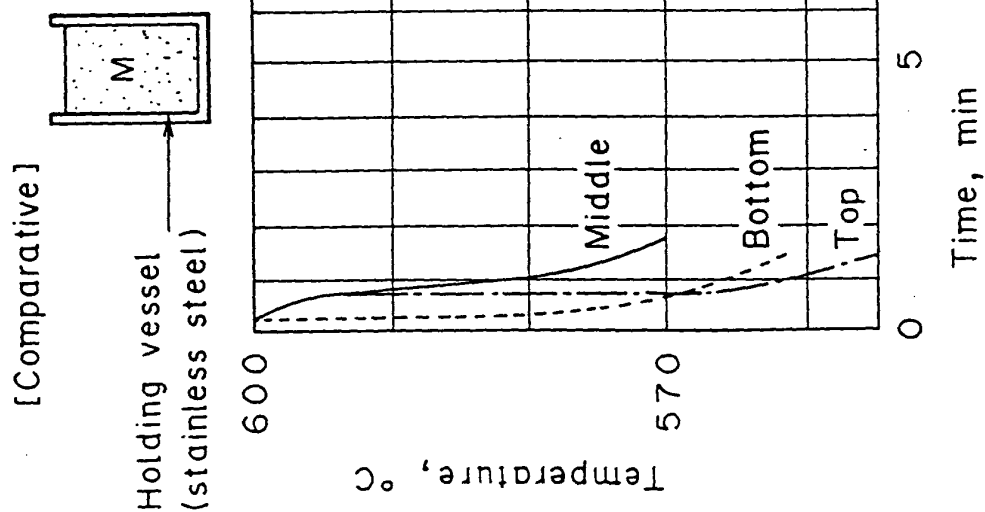


FIG. 33(b)

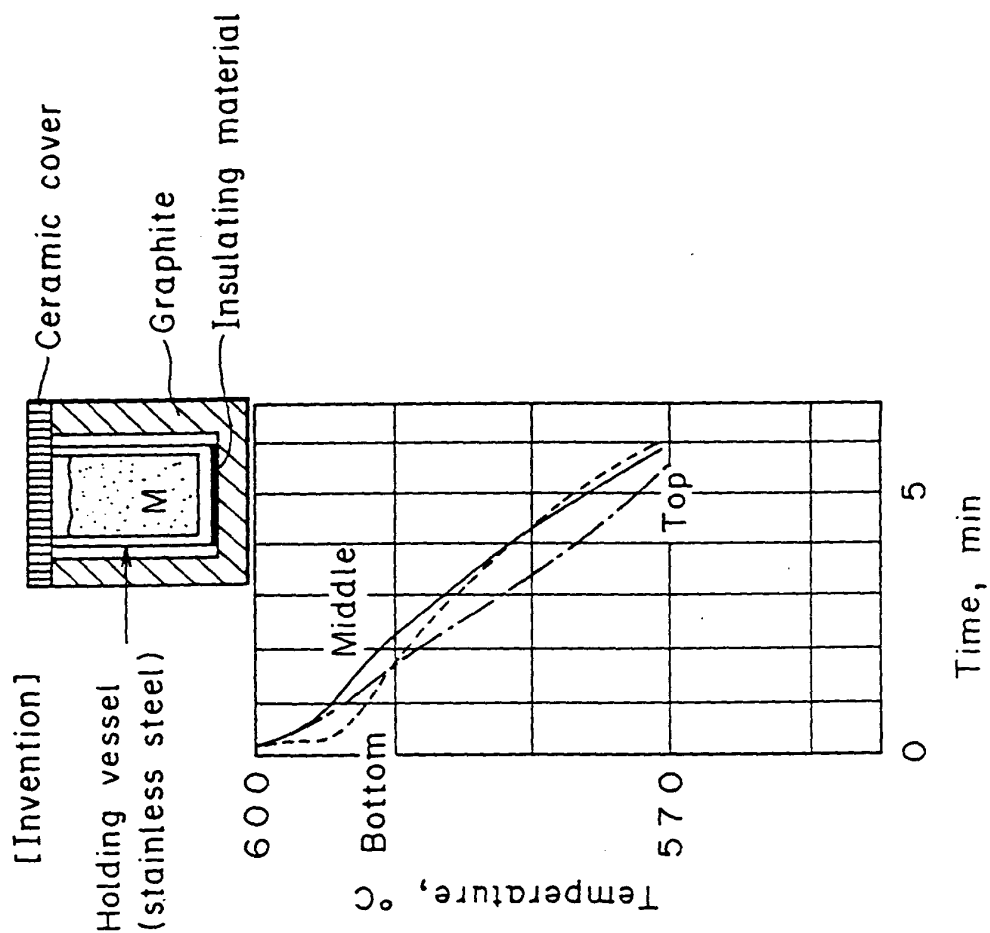
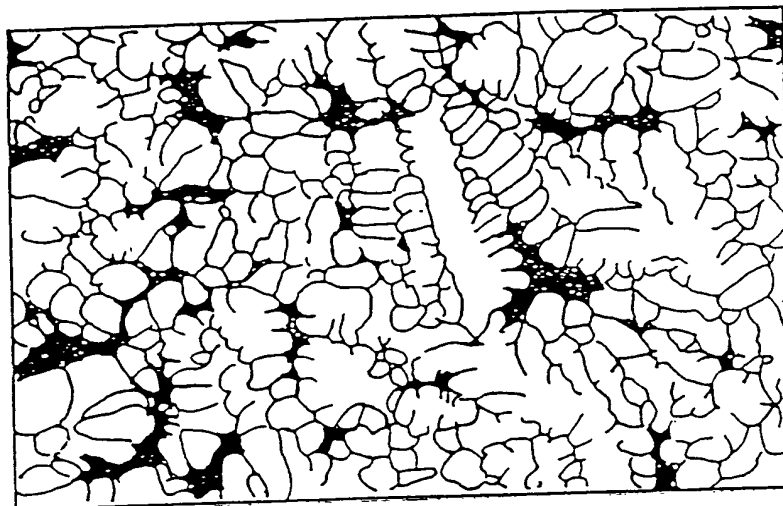


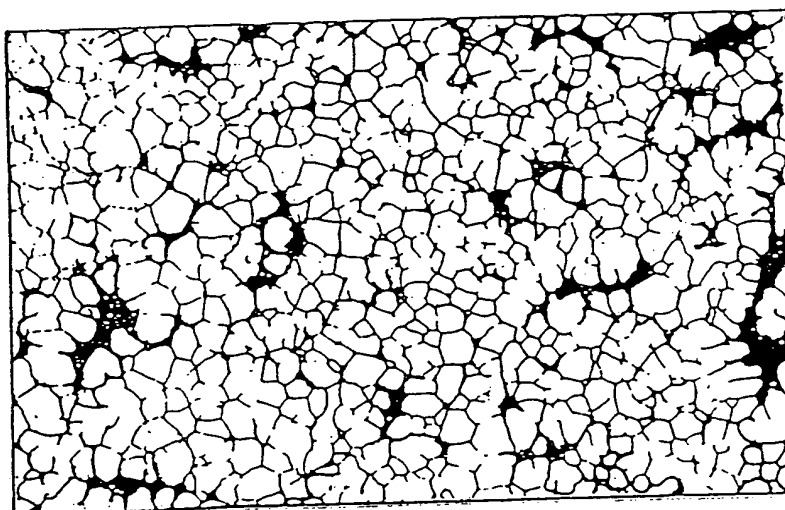
FIG. 34 Prior Art



200  $\mu$ m



FIG. 35



200  $\mu$ m





FIG. 37

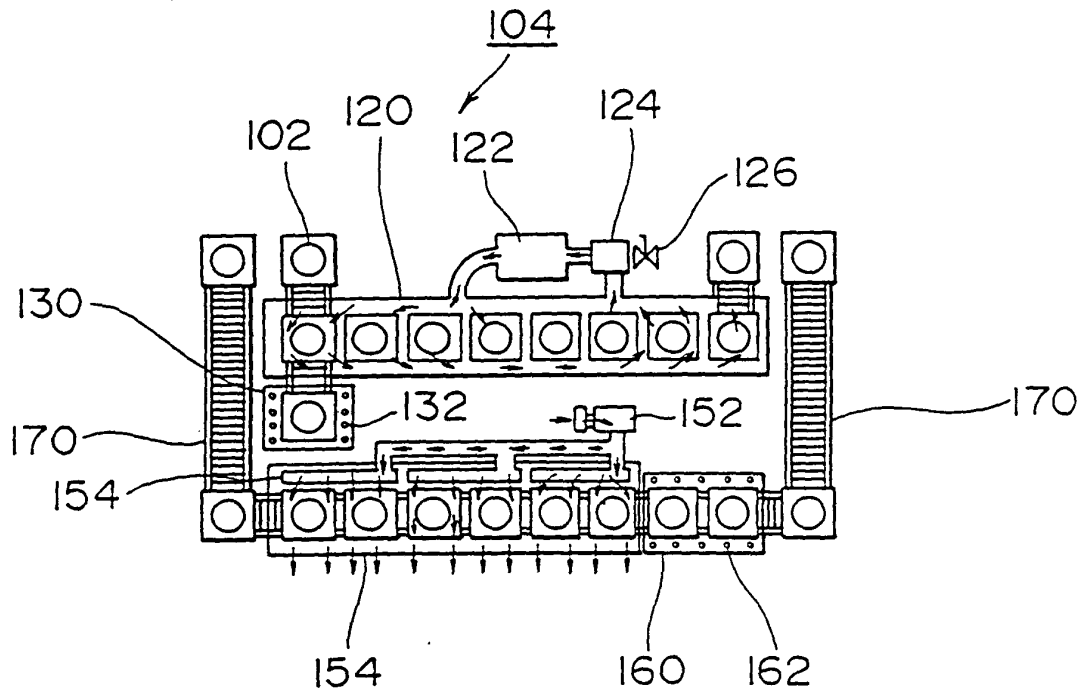


FIG. 38

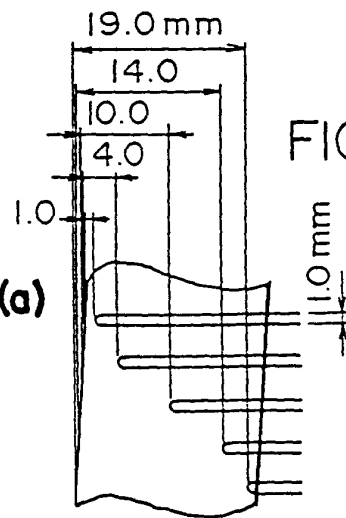
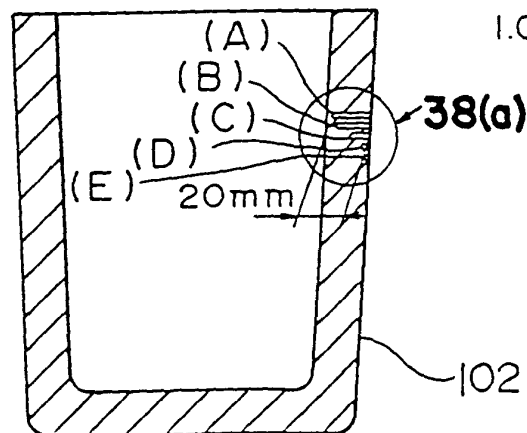
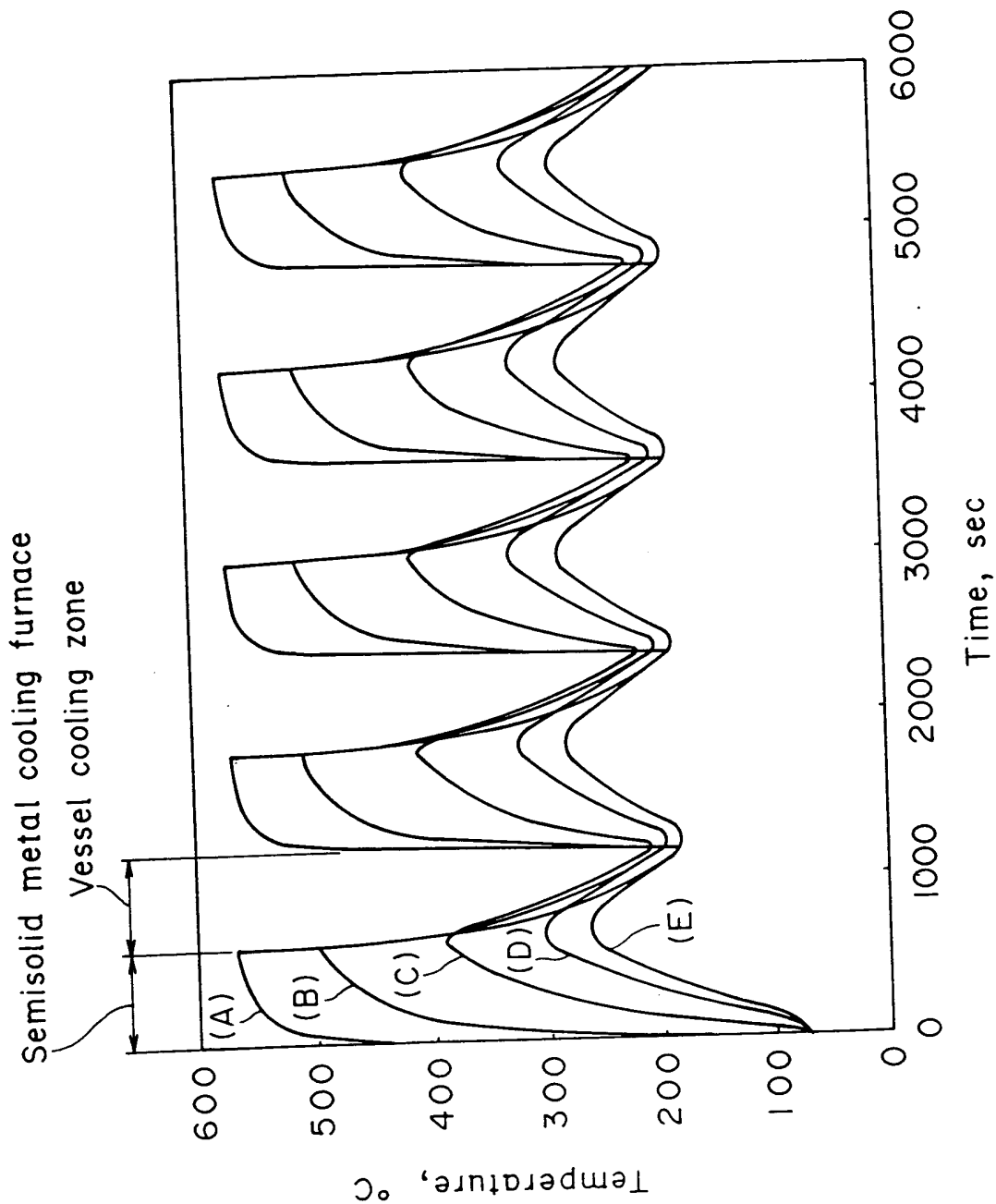


FIG. 38(a)

FIG. 39



SECRET

FIG. 40

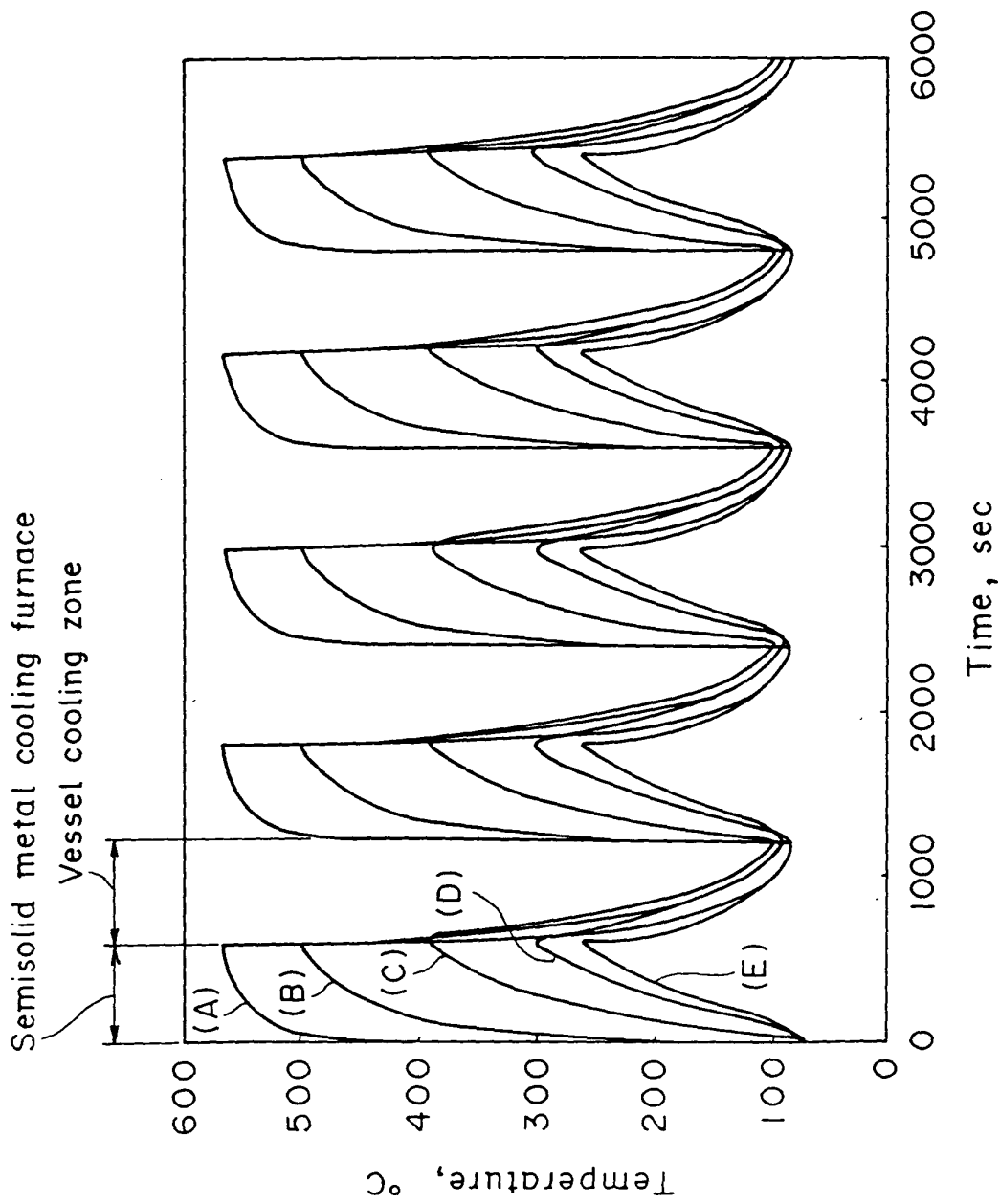






FIG. 42

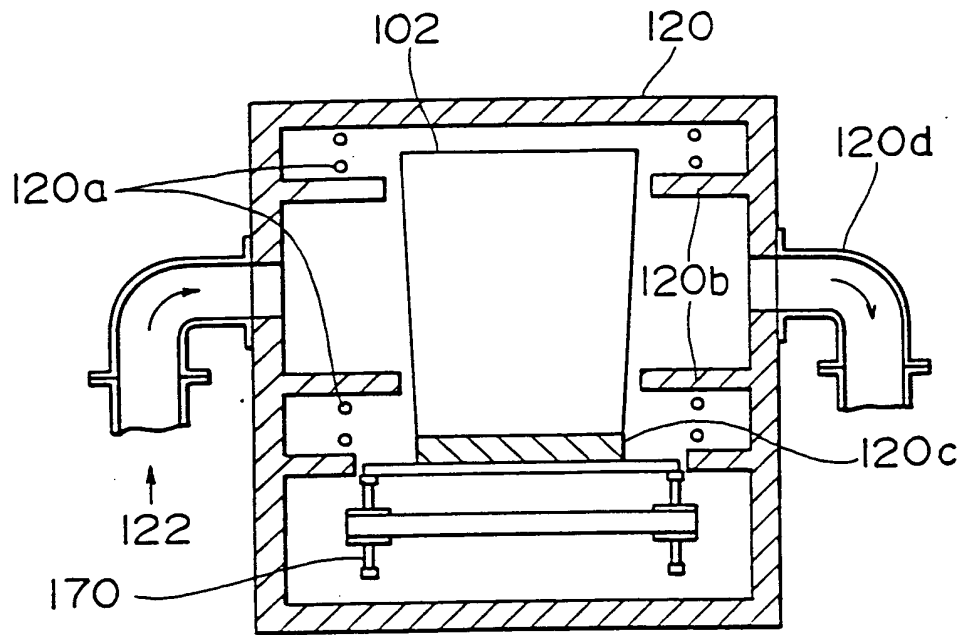


FIG. 43

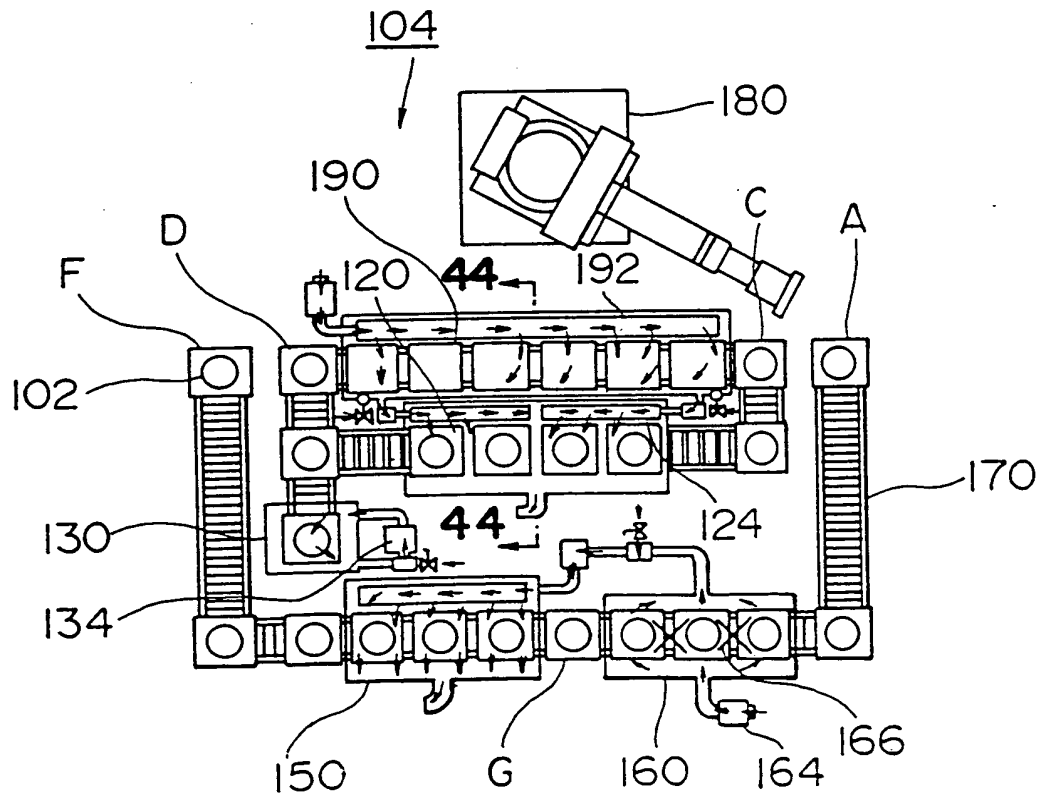


FIG. 44

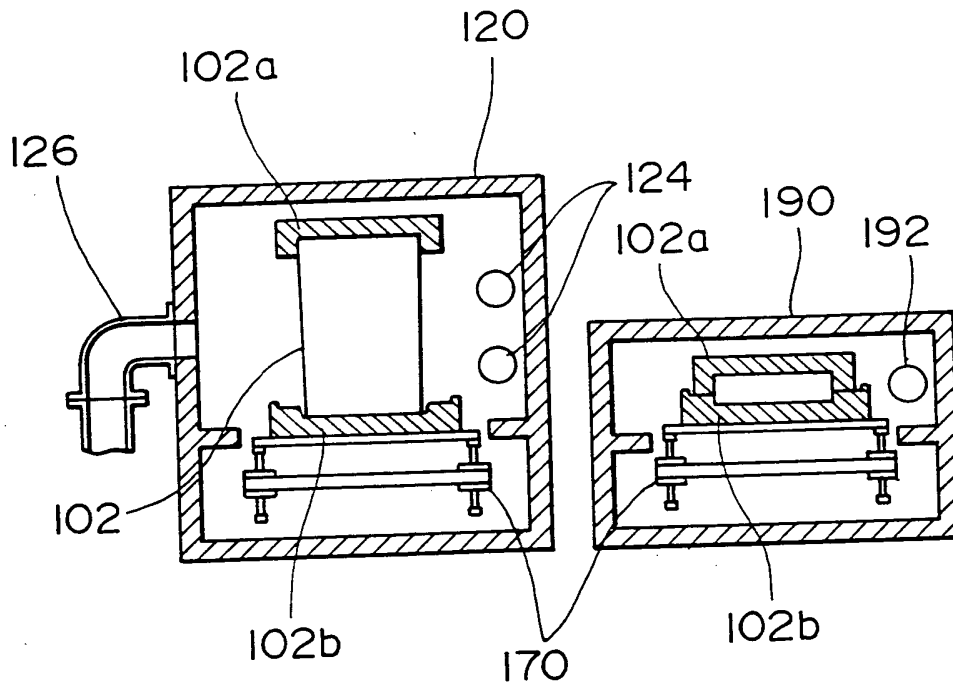


FIG. 45(a)

Temperature of atmosphere : 200°C

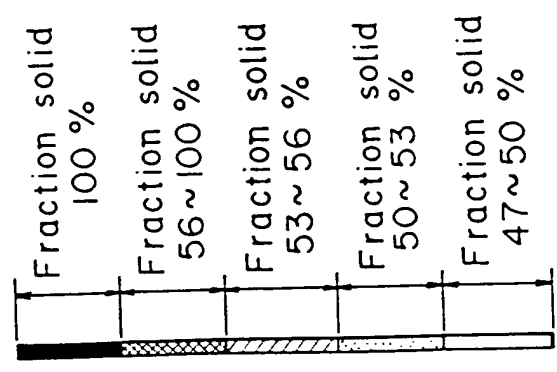


FIG. 45(b)

SUS304 preheated to 200°C

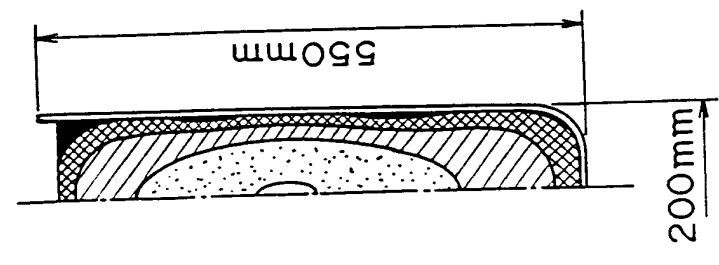


FIG. 45(c)

$Al_2O_3-SiO_2$  composite preheated to 200°C

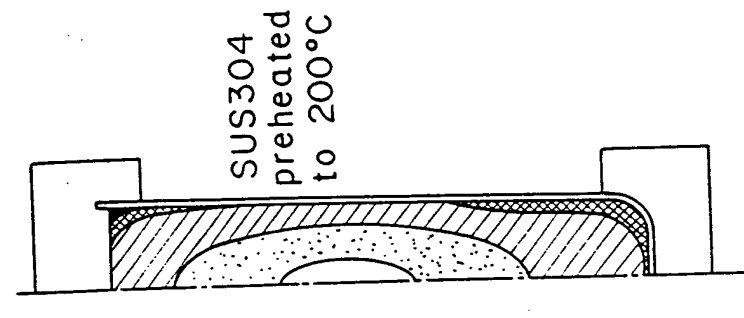
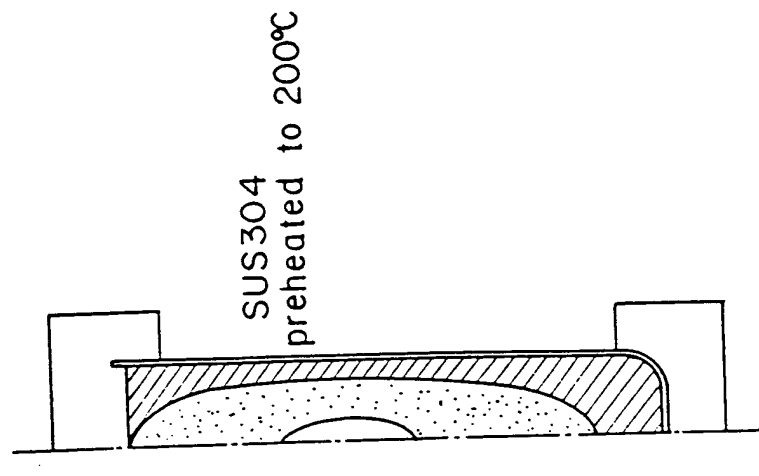


FIG. 45(d)

$Al_2O_3-SiO_2$  composite preheated to 350°C



$Al_2O_3-SiO_2$  composite preheated to 350°C

$Al_2O_3-SiO_2$  composite preheated to 200°C

FIG. 46

FIG. 46

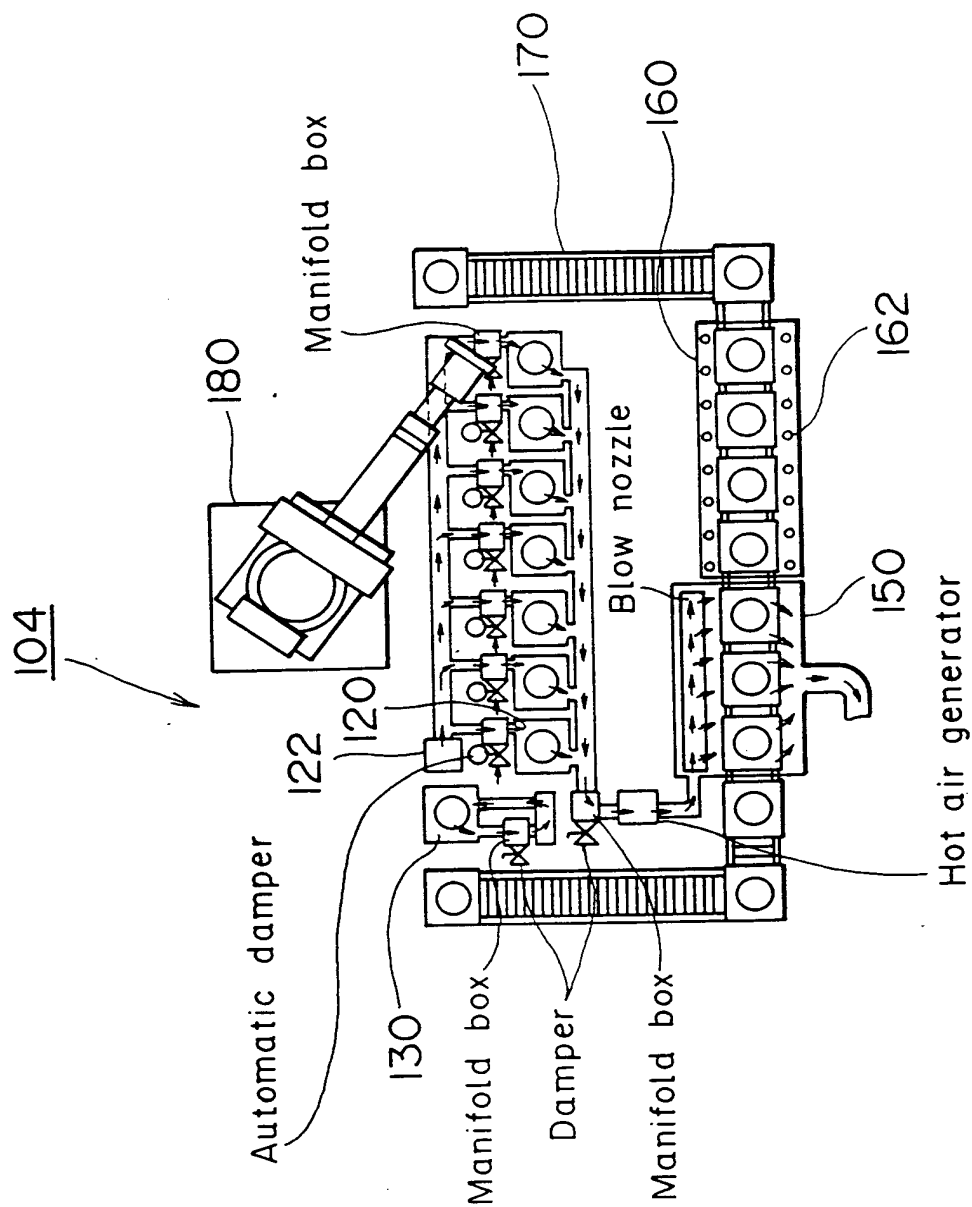


FIG. 47

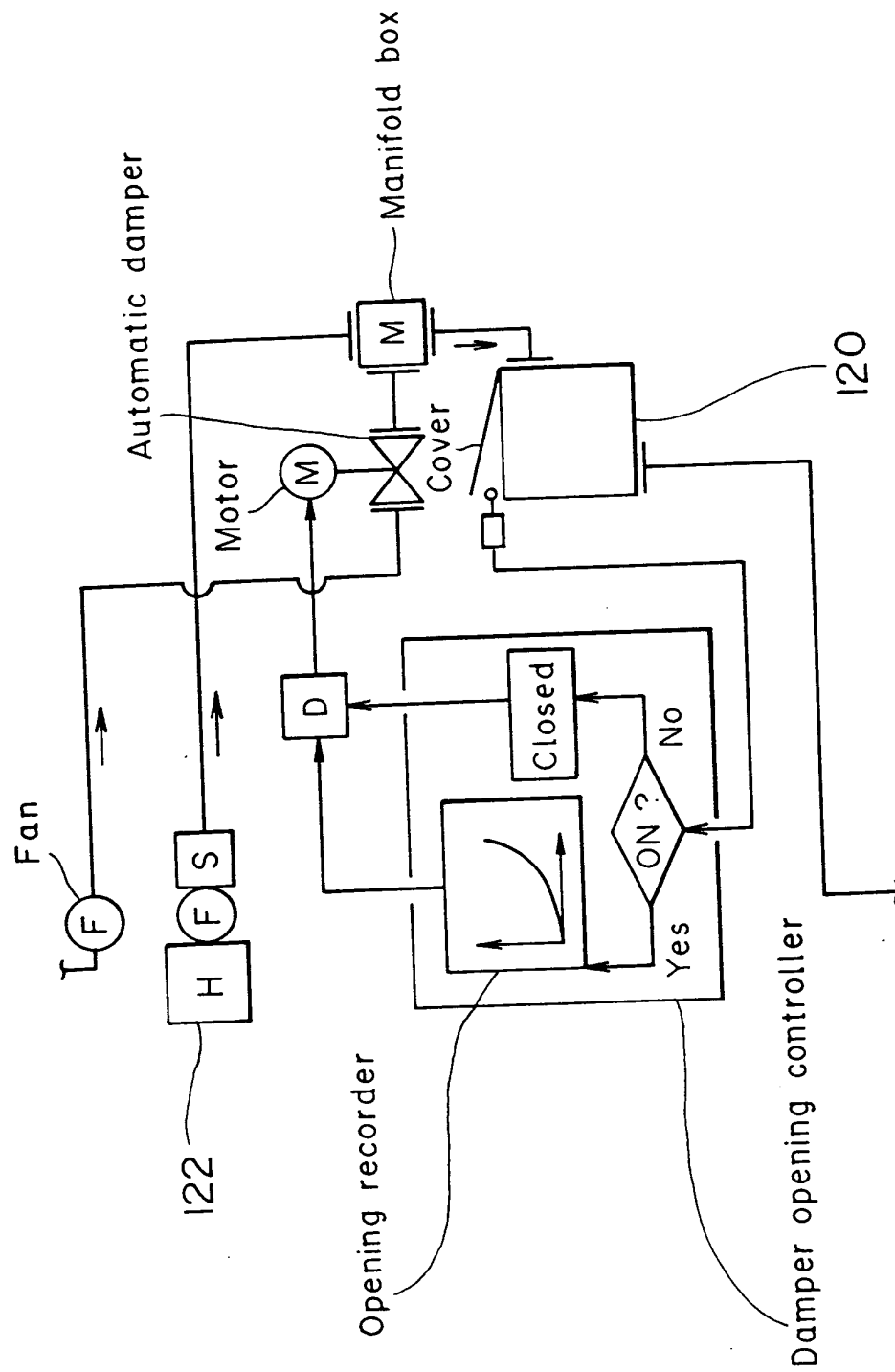


FIG. 48

FIG. 48

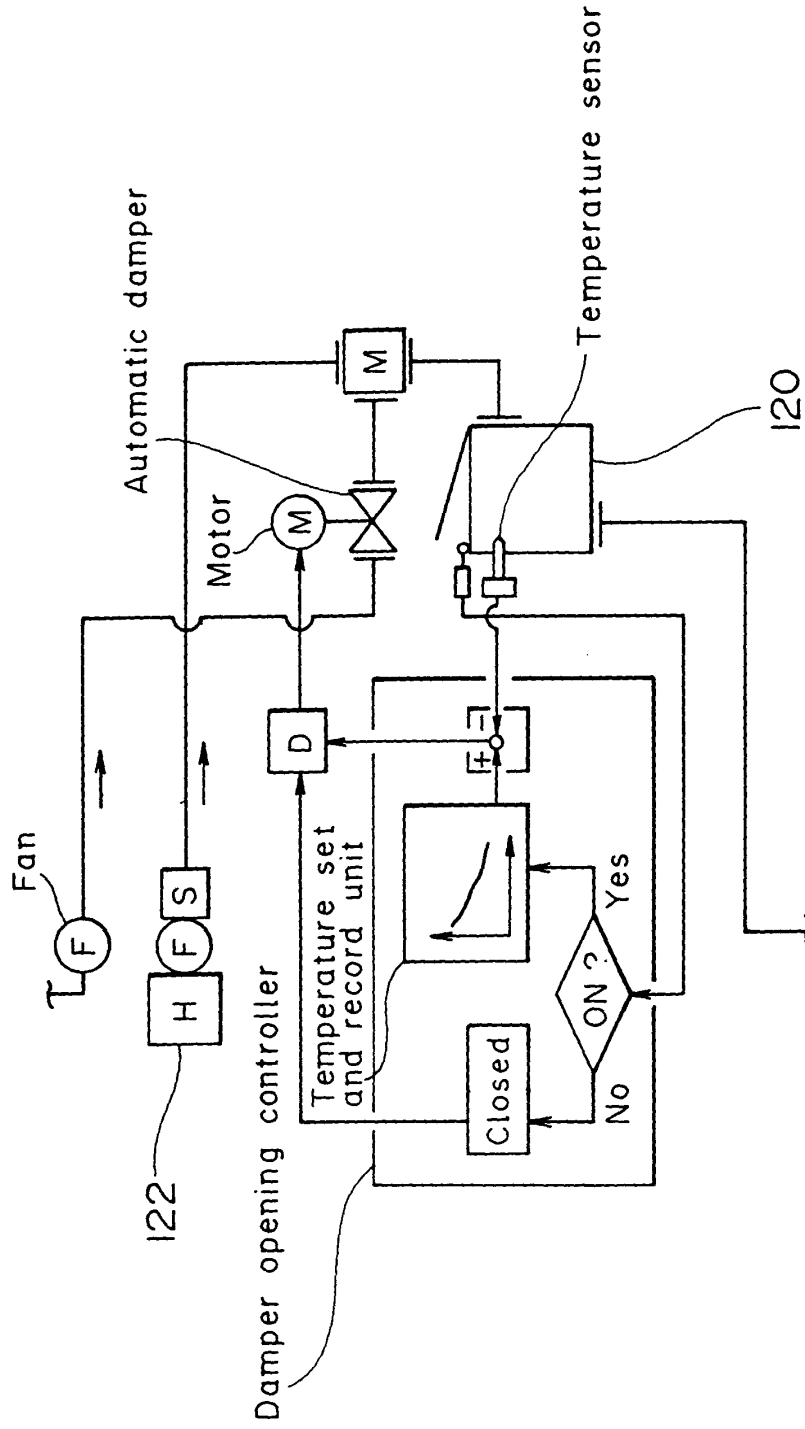


FIG. 49

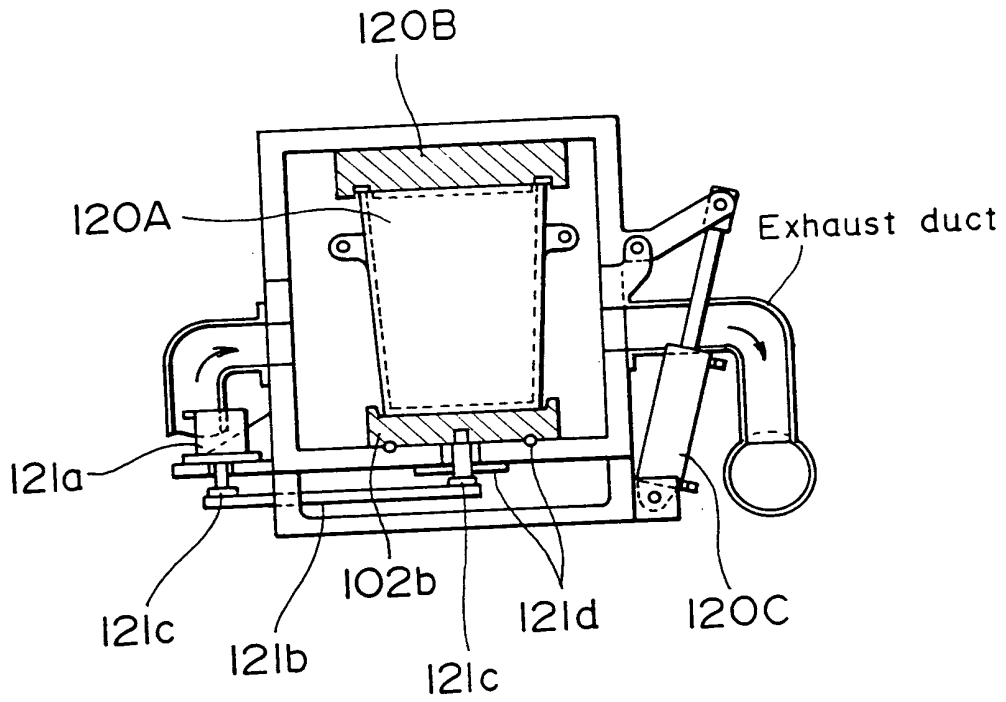




FIG. 50

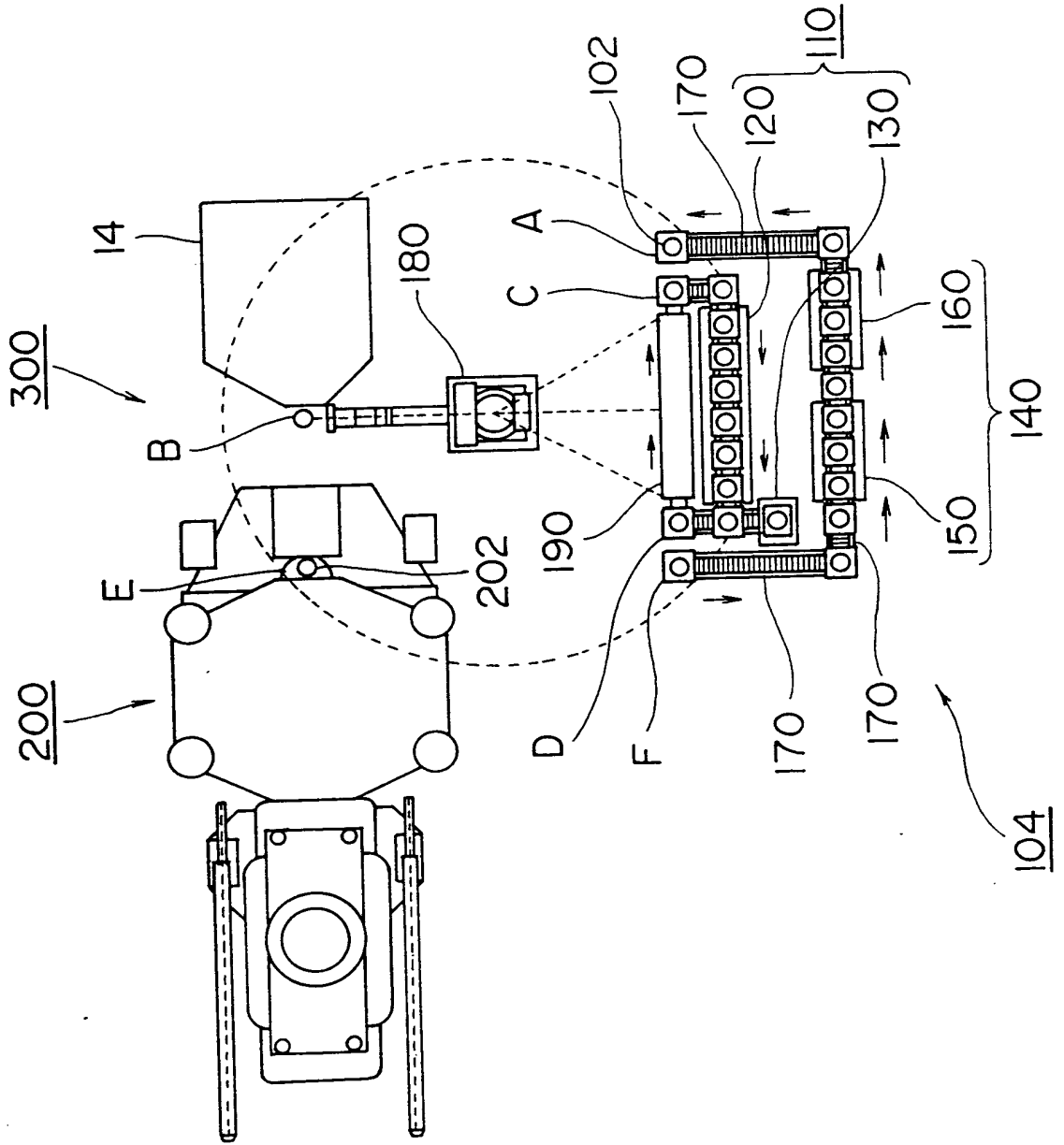


FIG. 51

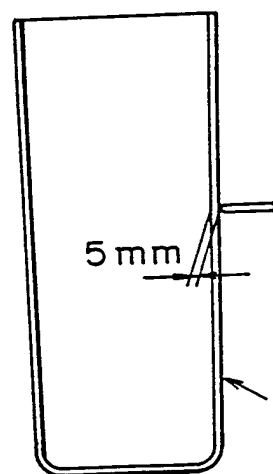
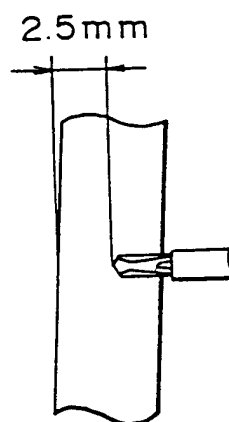


FIG. 51(a)



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FIG. 52

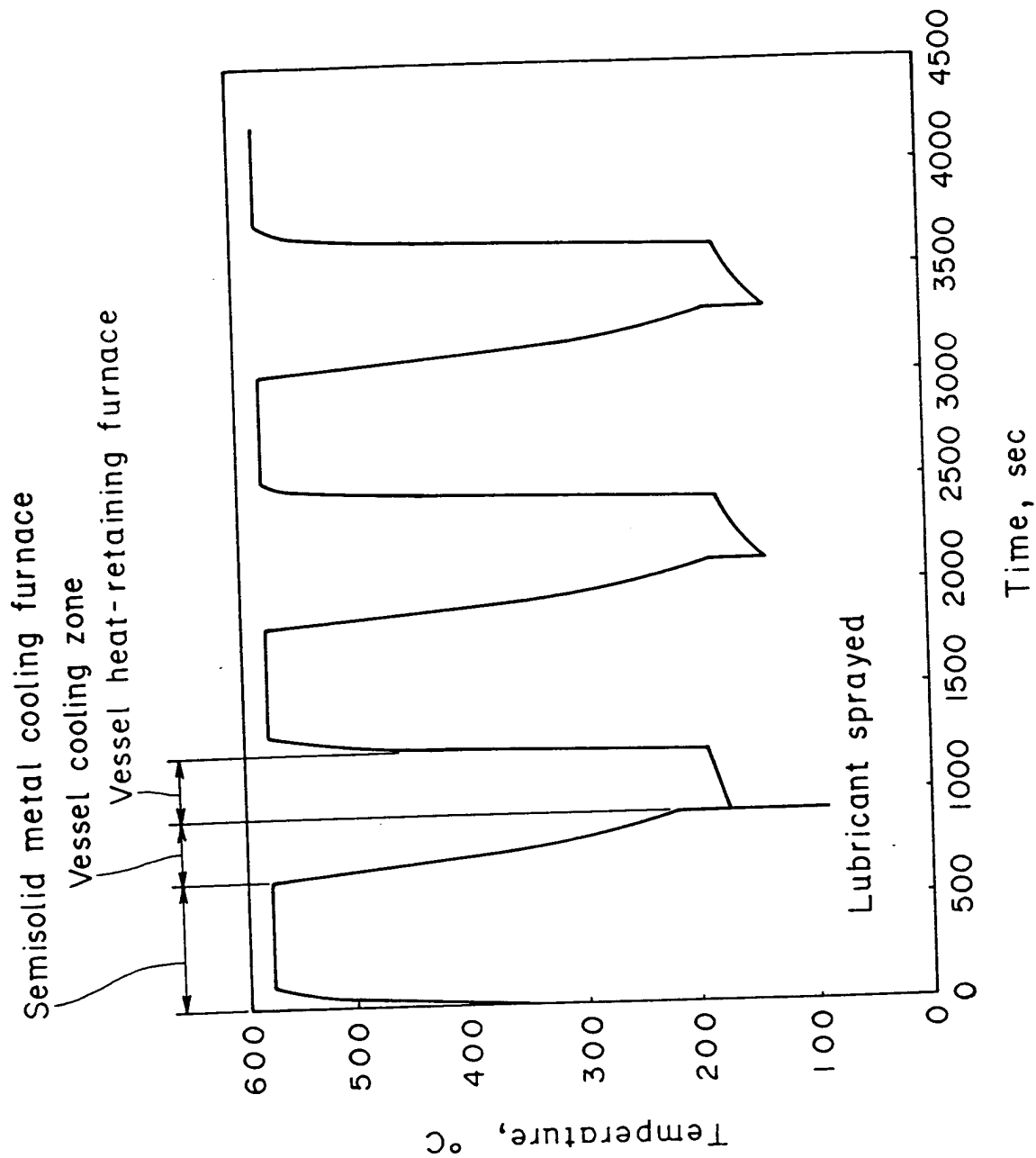


FIG. 53

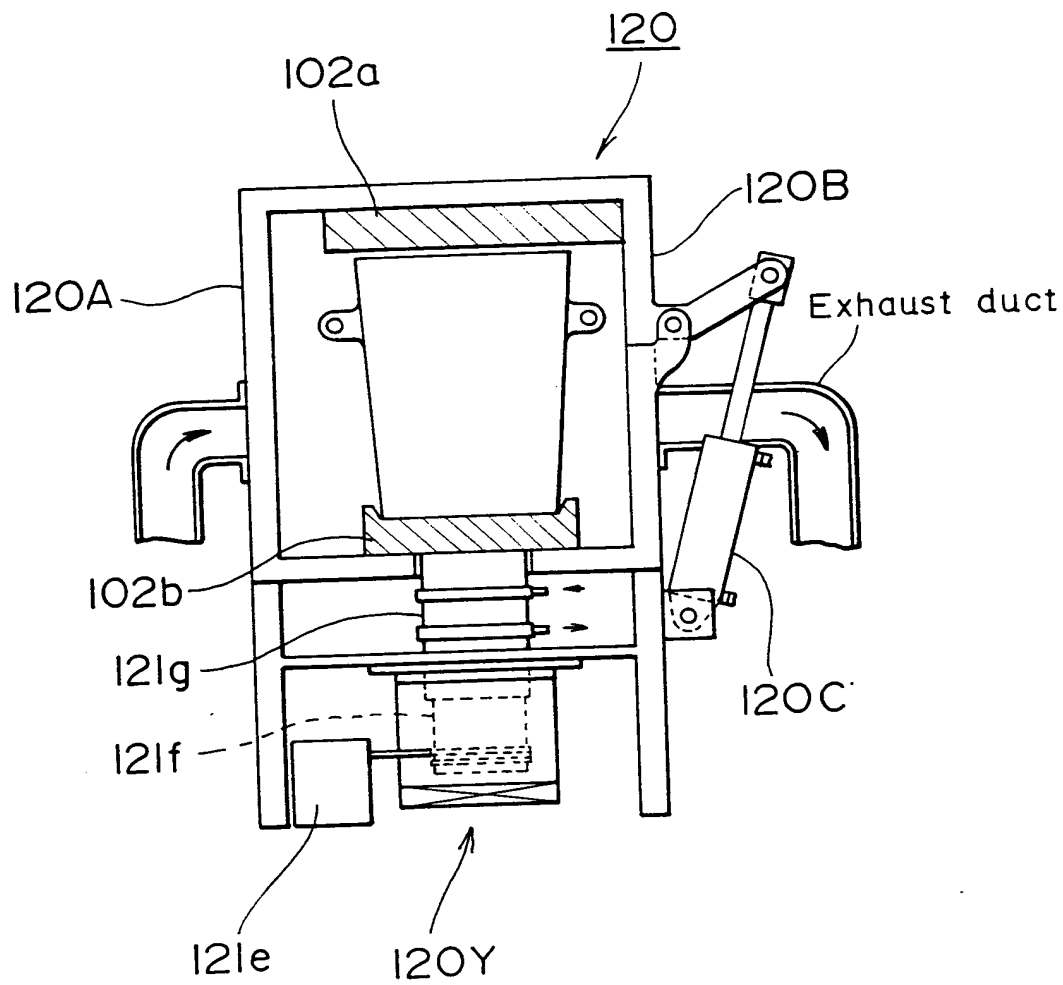


FIG. 54

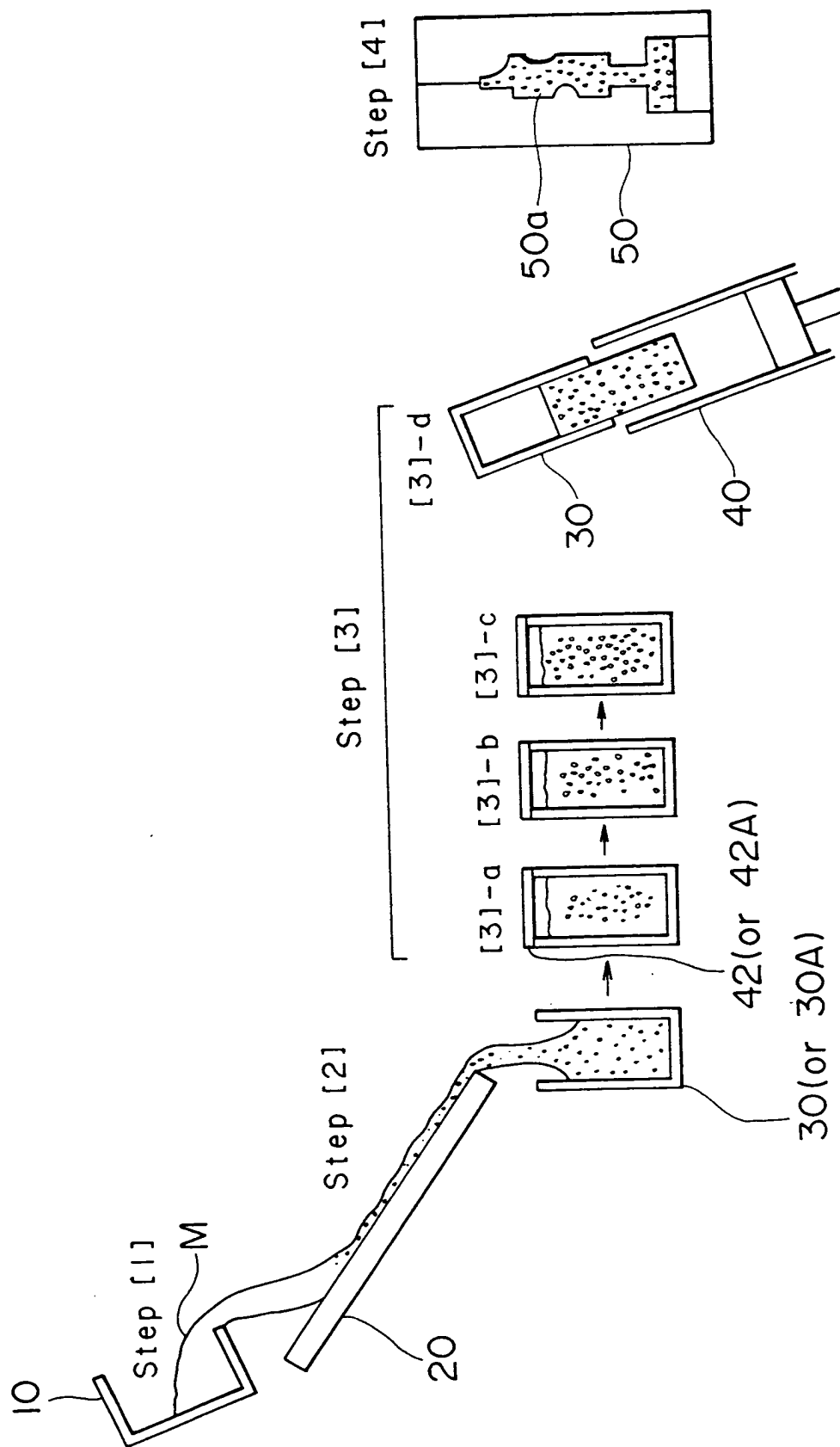
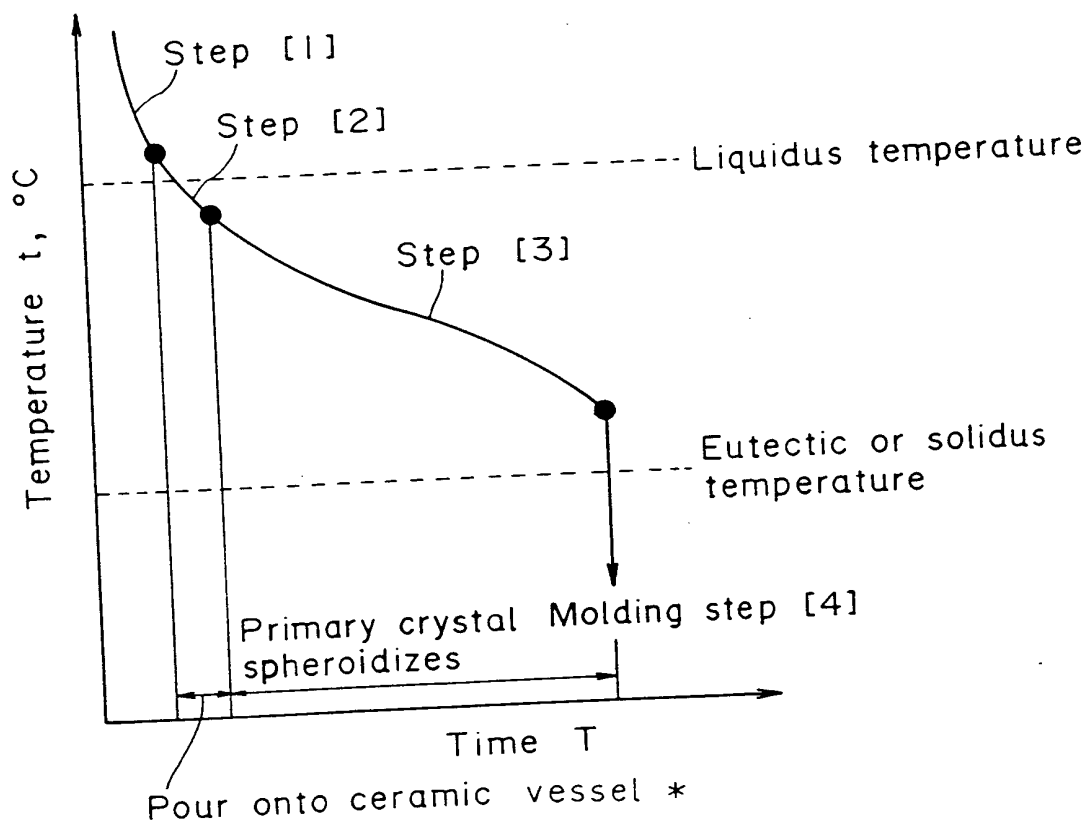


FIG. 55



\* With or without cooling jig

FIG. 56

Superheated to no more than 100°C  
(without cooling jig) or 300°C  
(with cooling jig) above liquidus temperature

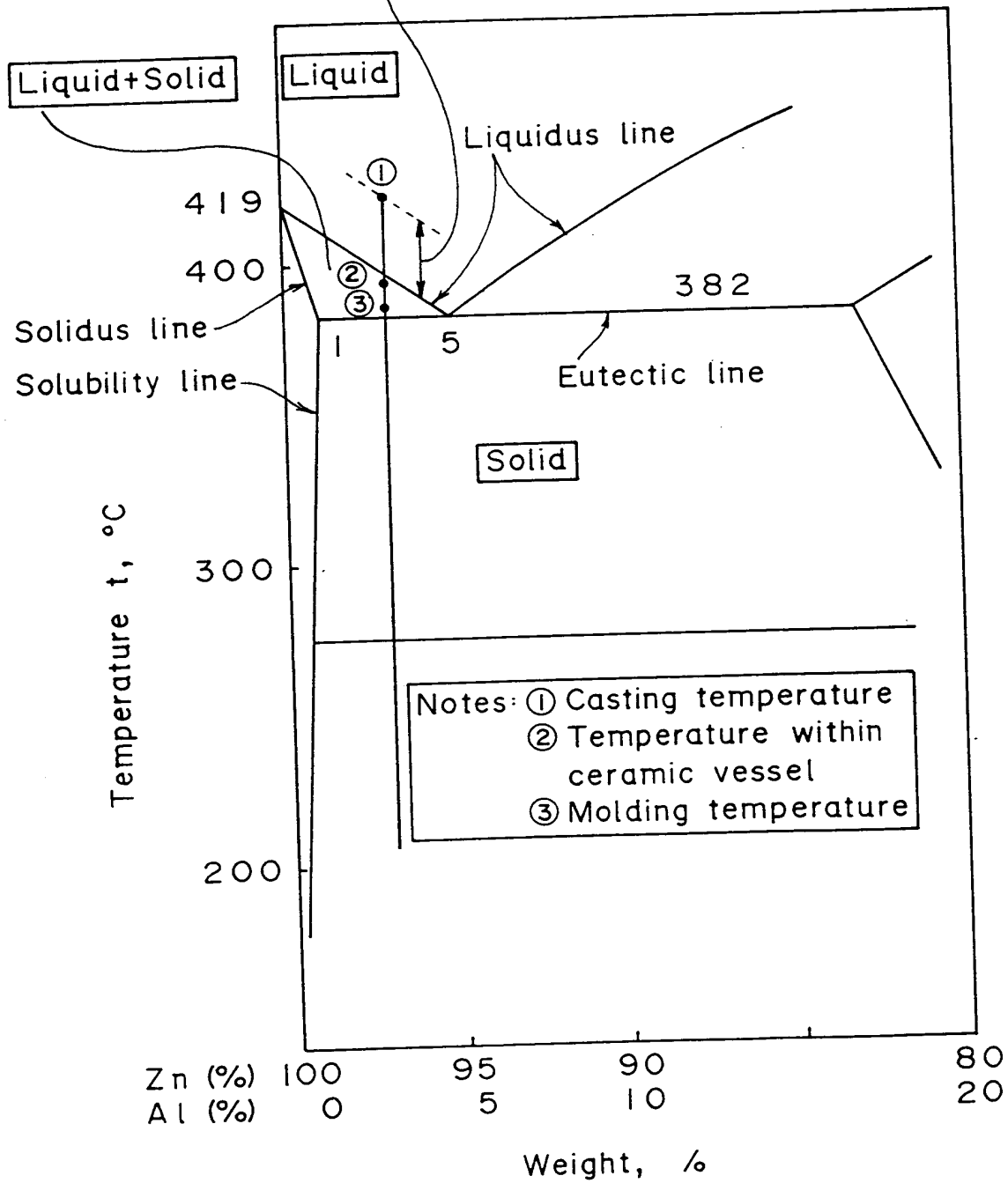


FIG. 57

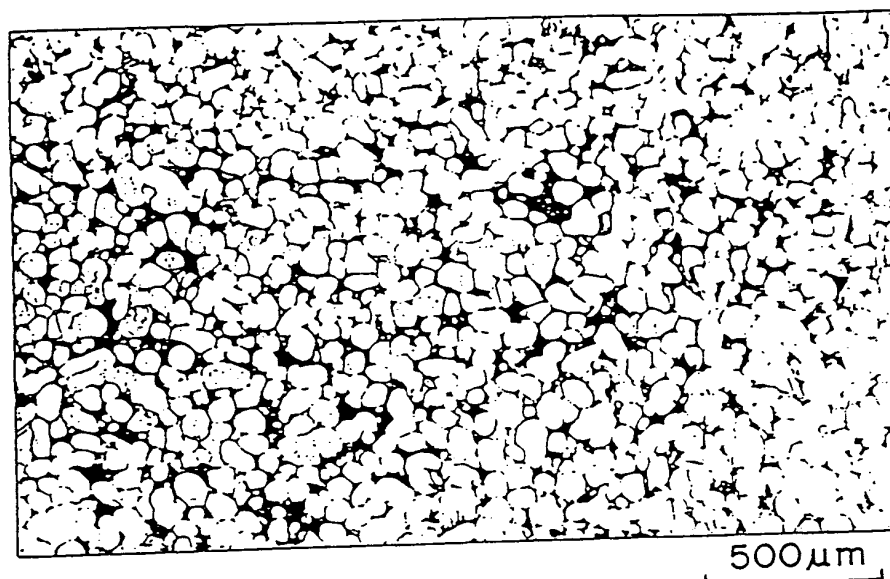
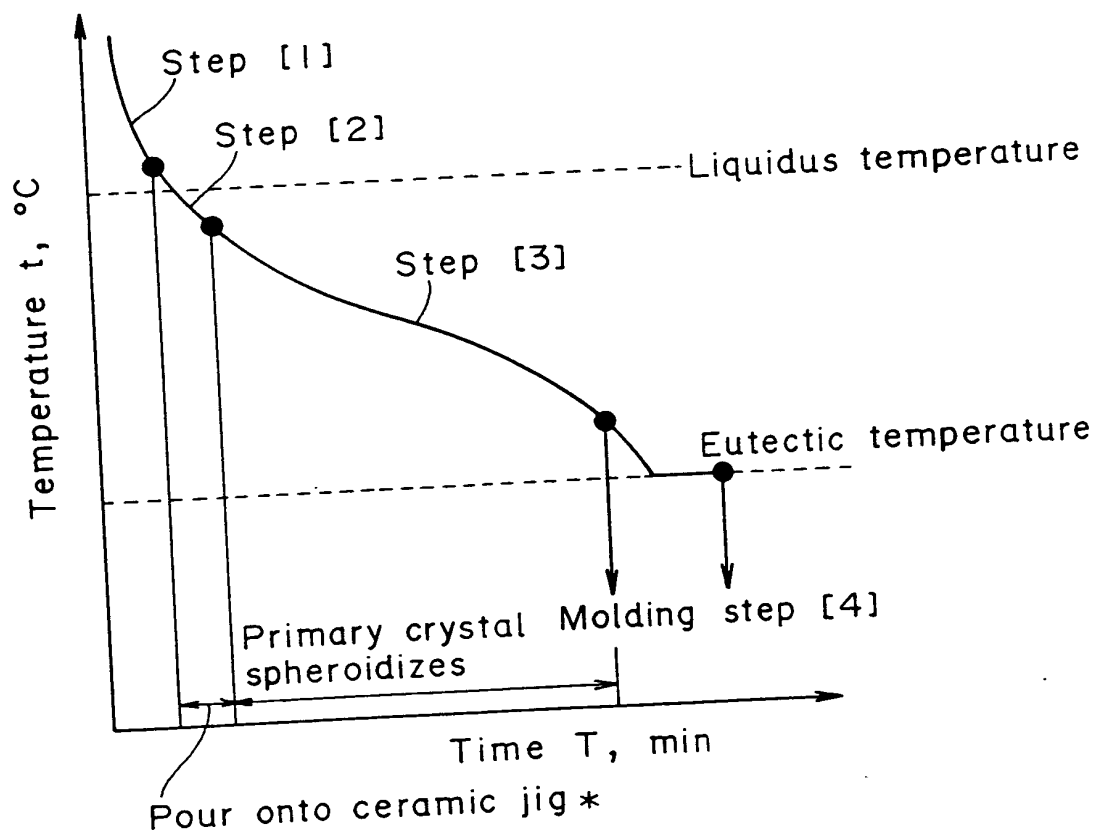


FIG. 58 Prior Art



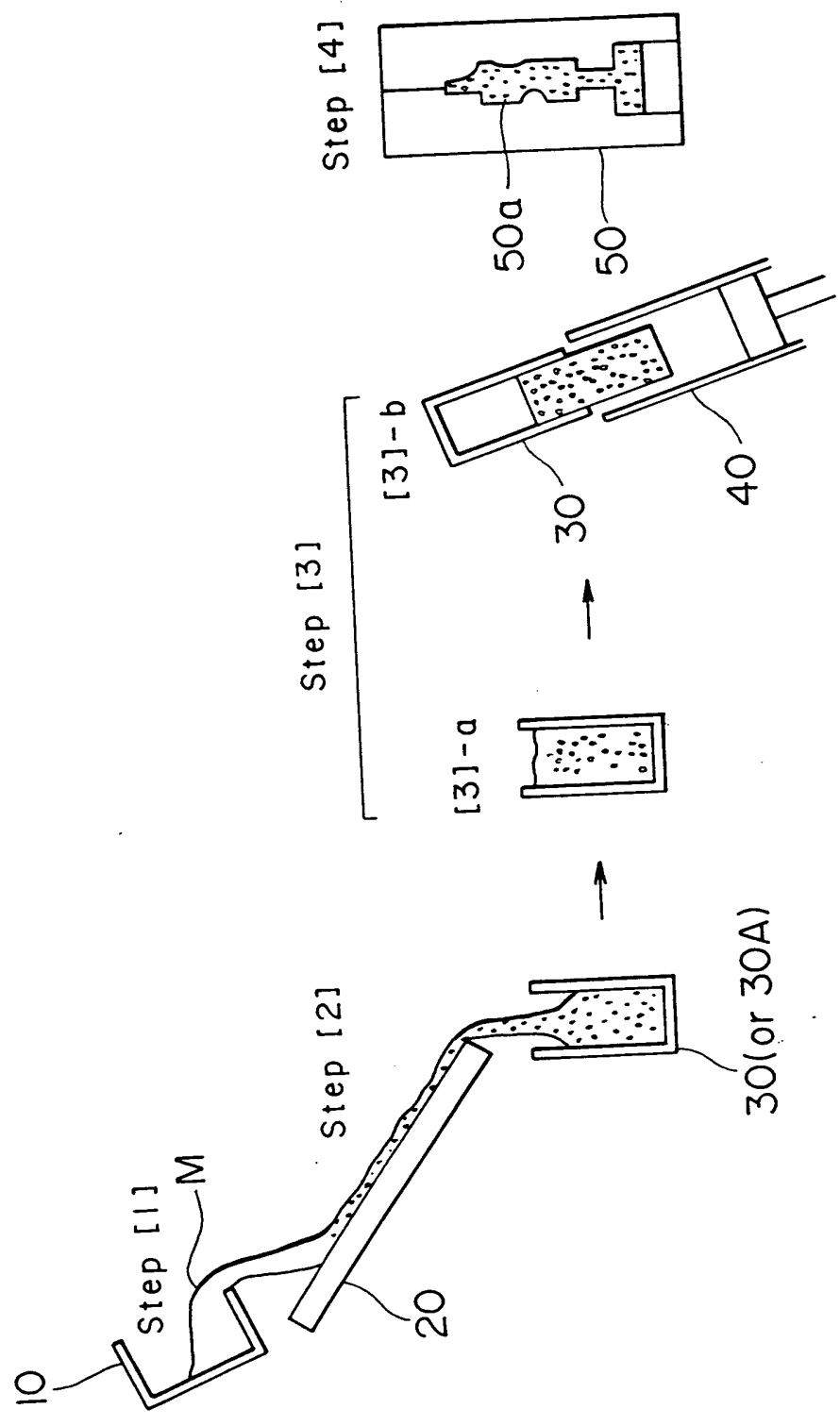


FIG. 59



\*With or without cooling jig

FIG. 60



WATERBURY

FIG. 61

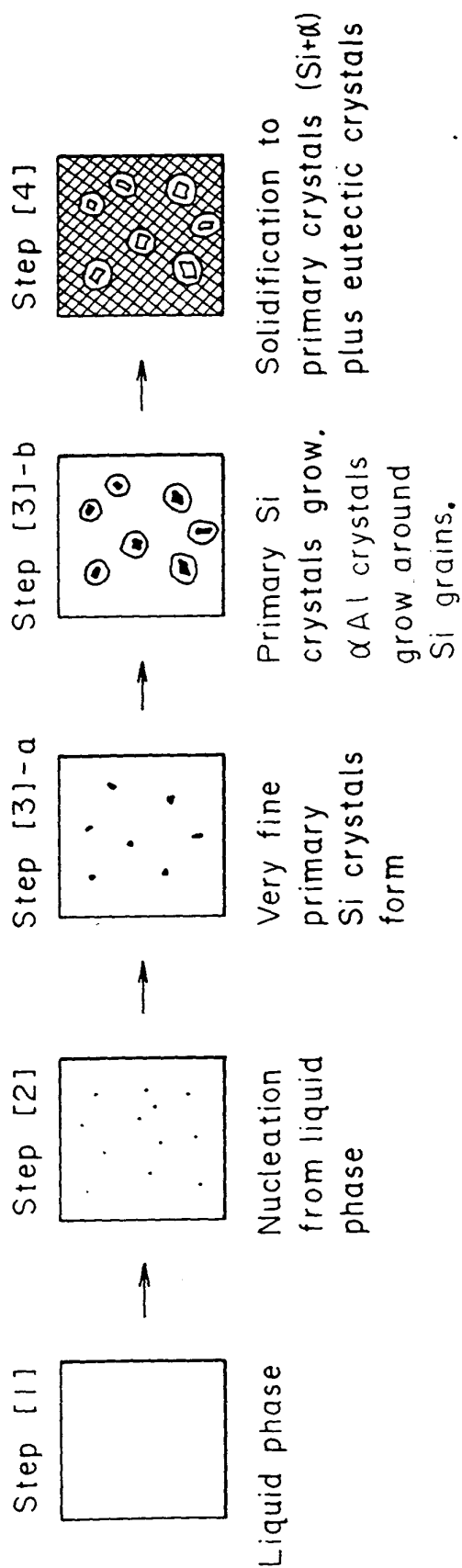
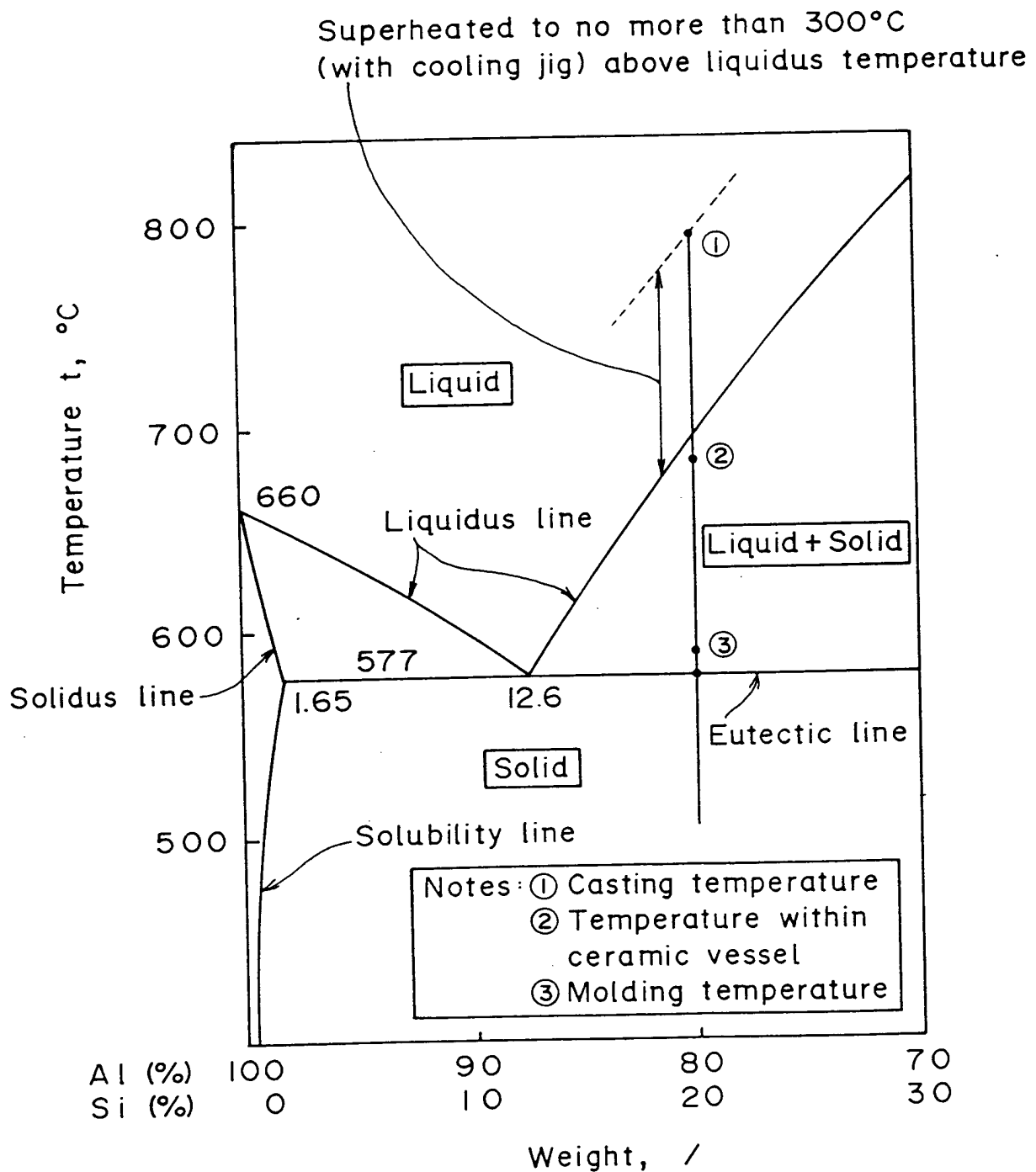


FIG. 62



APPROVE	DATE
BY	CLASS
DRAFTSMAN	SUBCLASS

FIG. 63

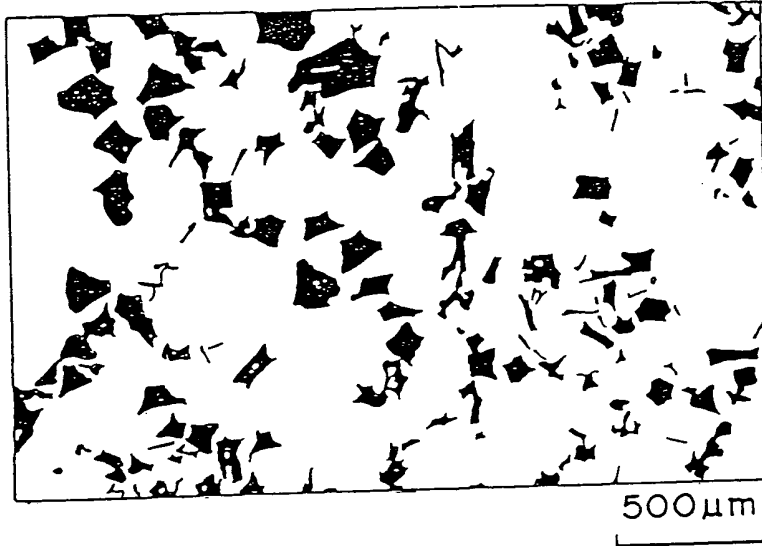


FIG. 64 Prior Art



FIG. 65

Superheated to no more than 100°C  
(without cooling jig) or 300°C  
(with cooling jig) above liquidus temperature

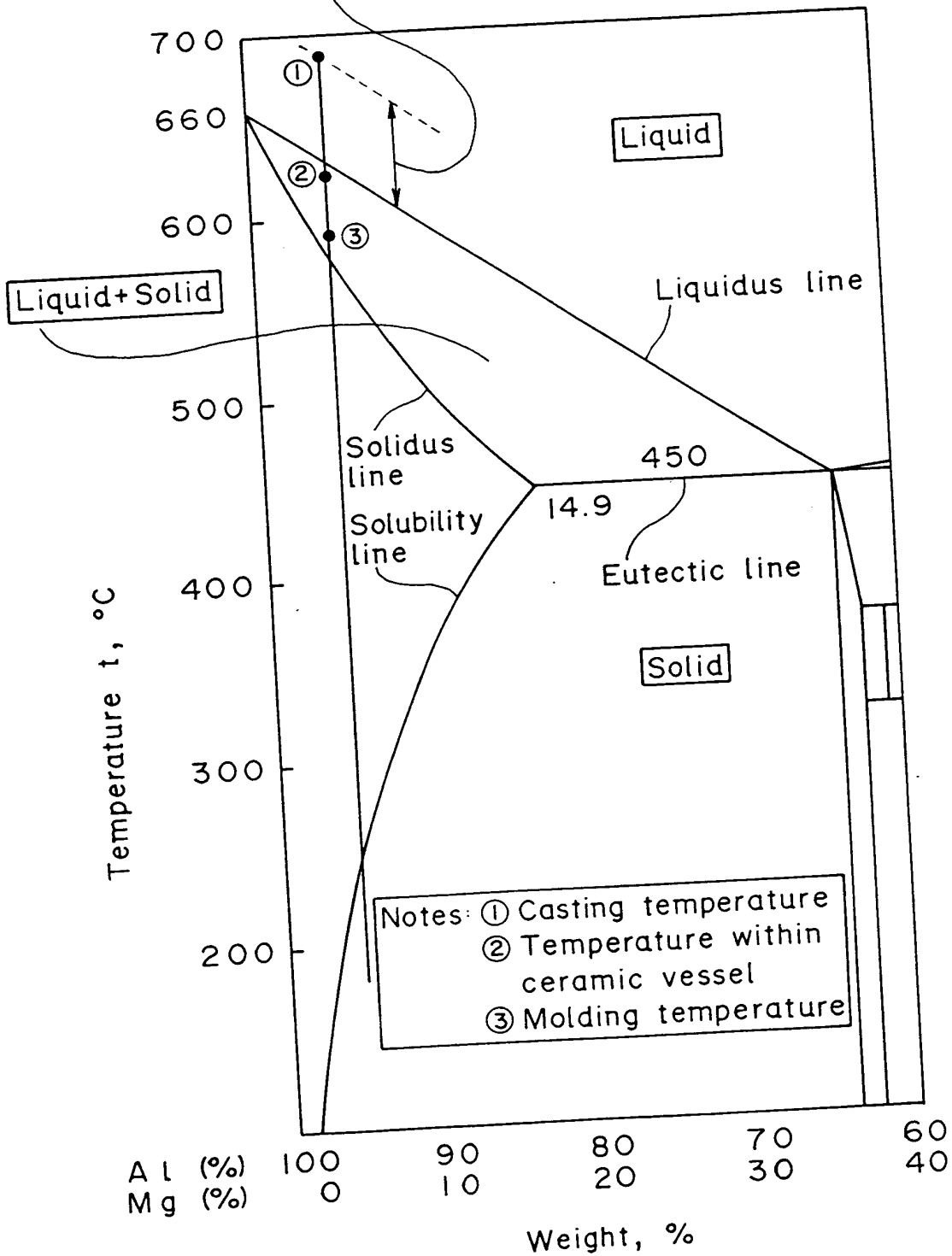


FIG. 66

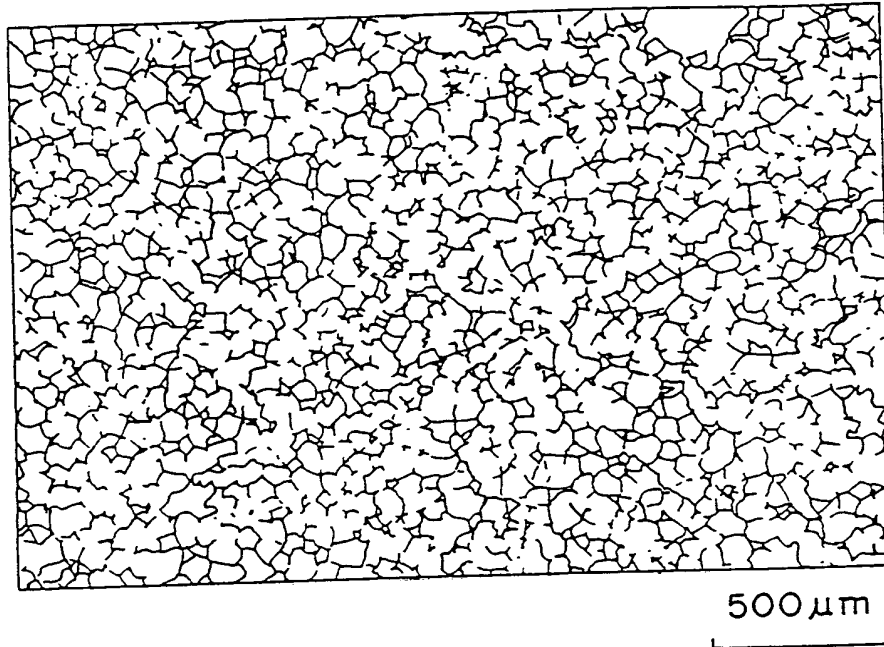


FIG. 67 Prior Art

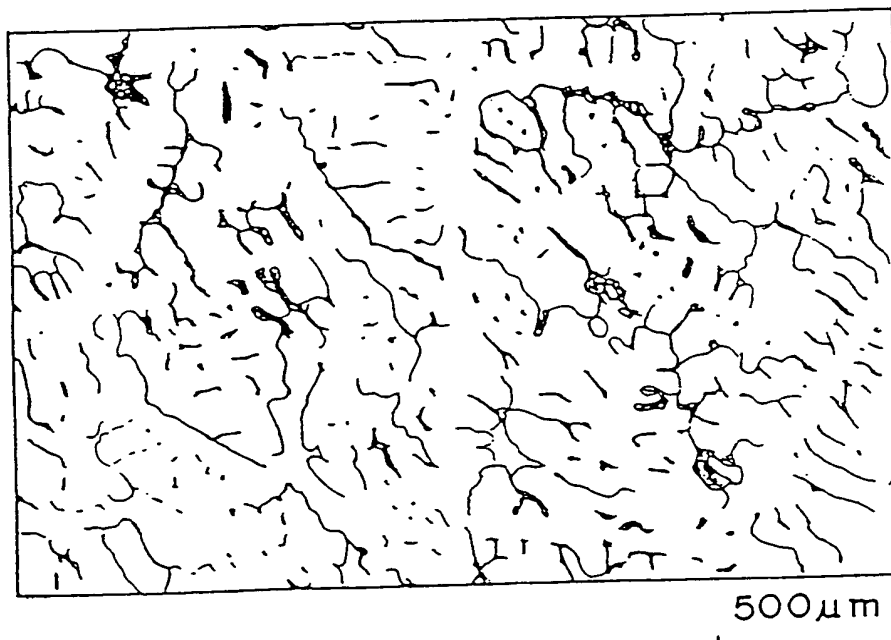


FIG. 66

FIG. 68

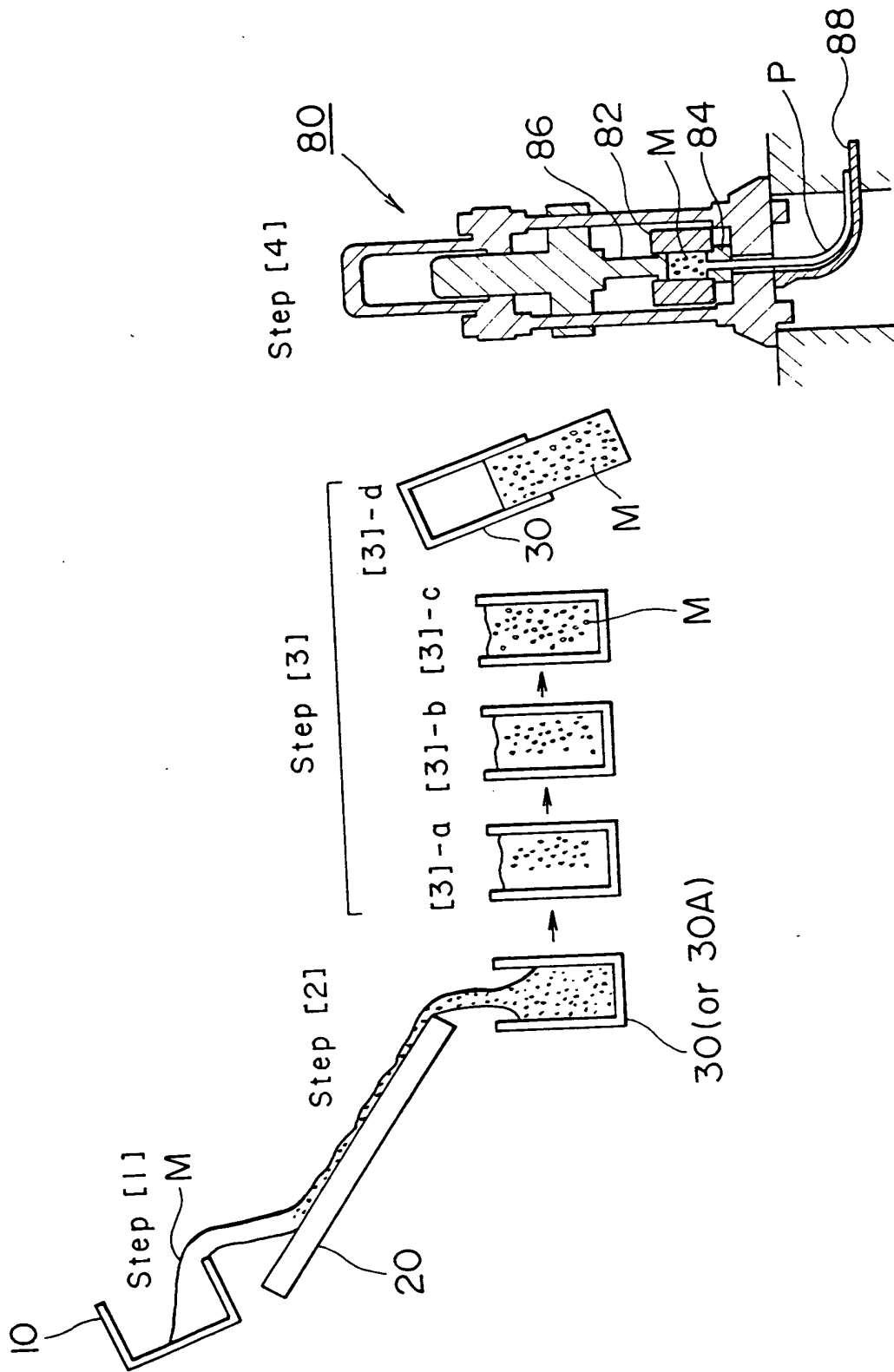




FIG. 69(a)

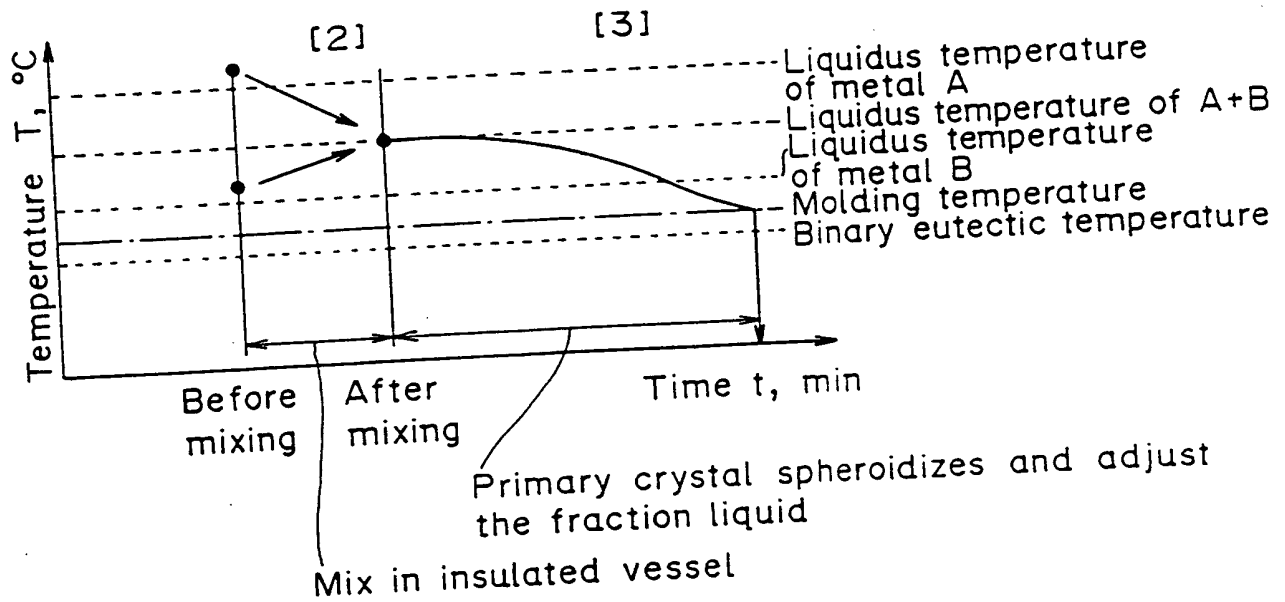
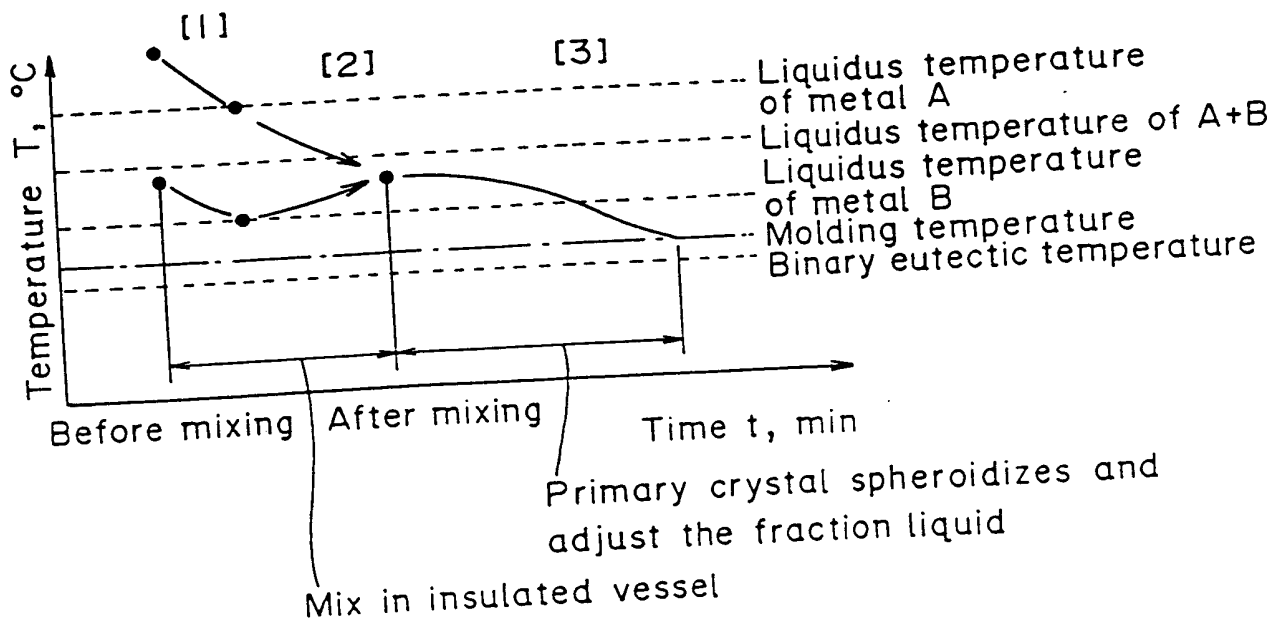


FIG. 69(b)







APPROVAL	77	DATE
BY	CLASS	SUBCLAS
CRAFTSMAN		

FIG. 72

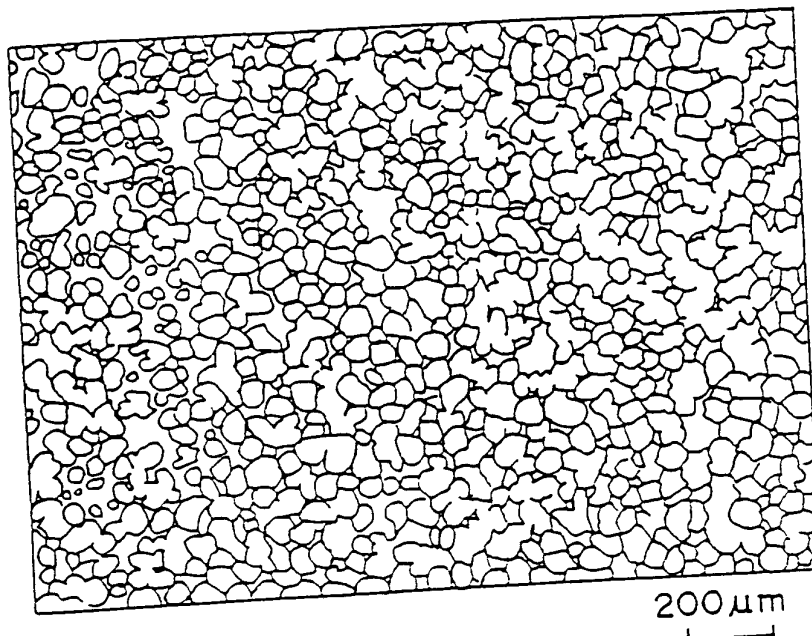


FIG. 73 Prior Art

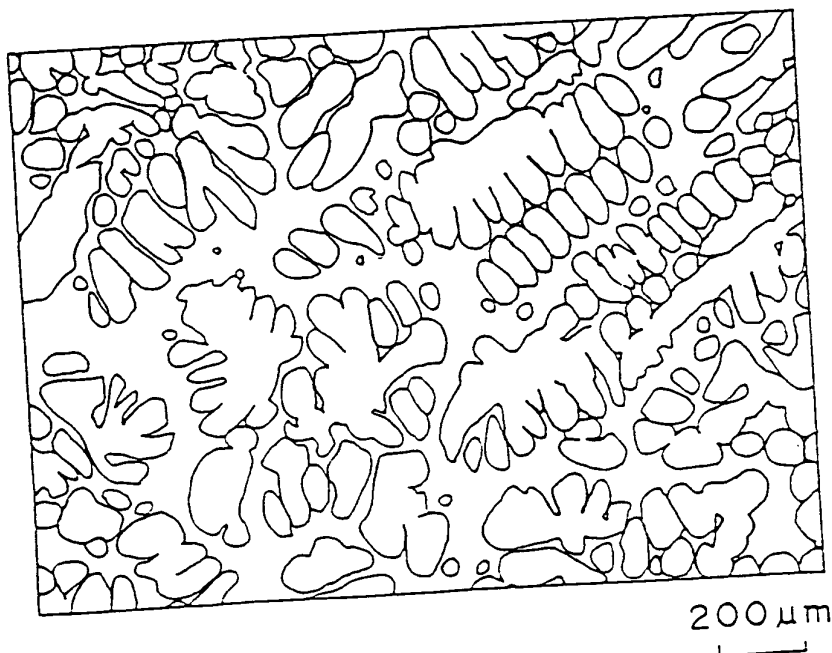


FIG. 74

